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RAILWAY AGE WEEKLY

CHICAGO '63

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CHICAGO

Special
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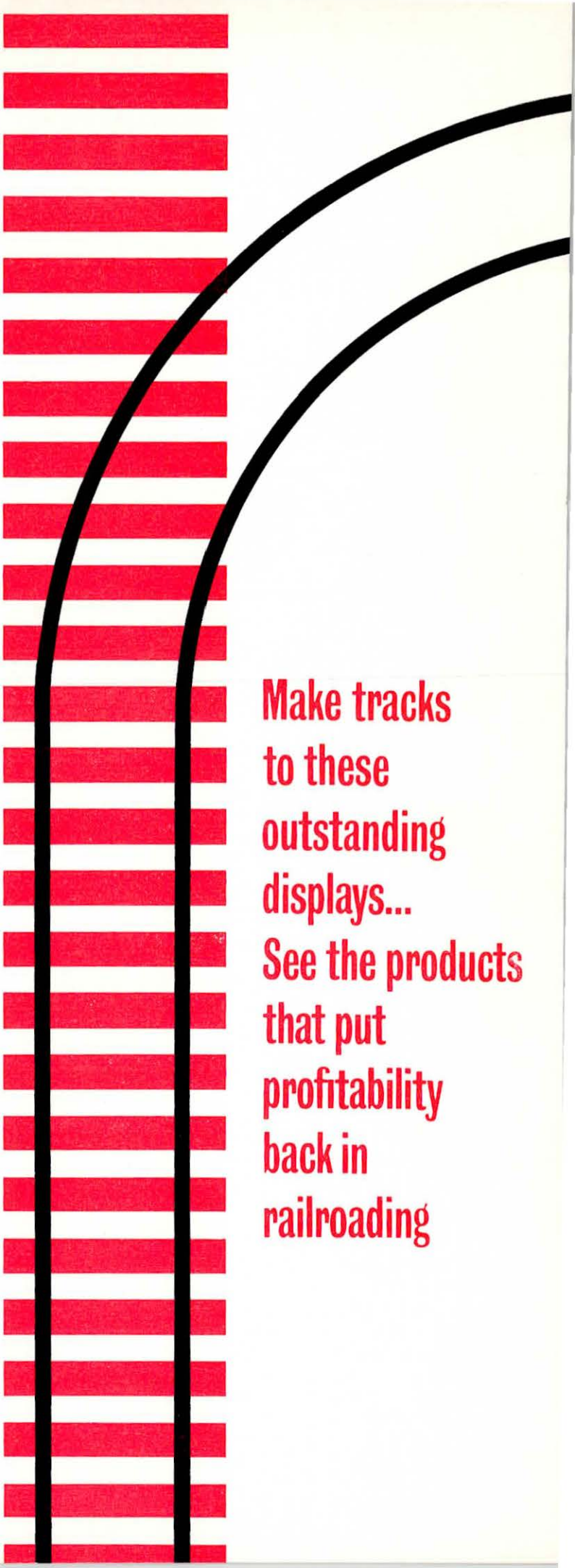

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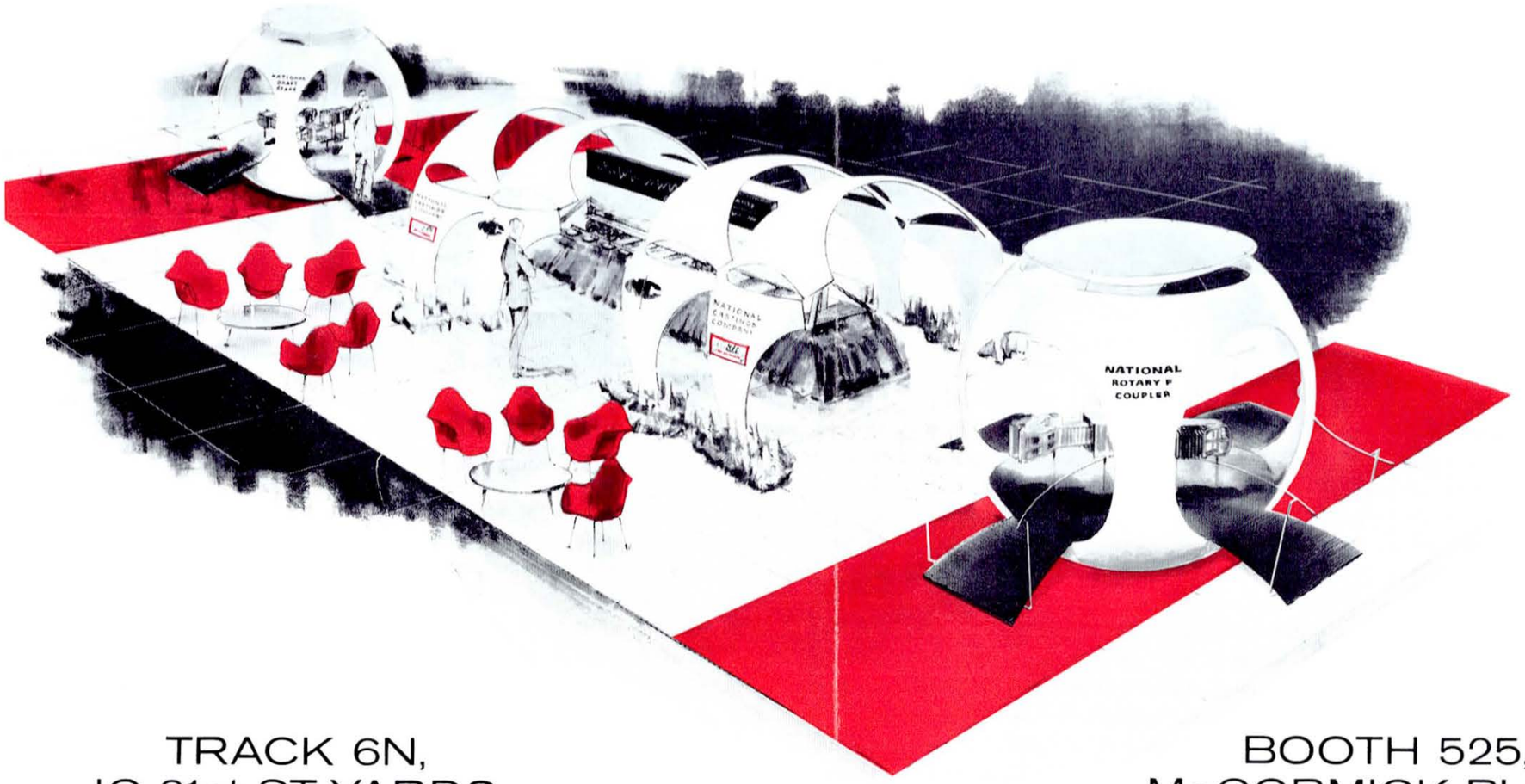

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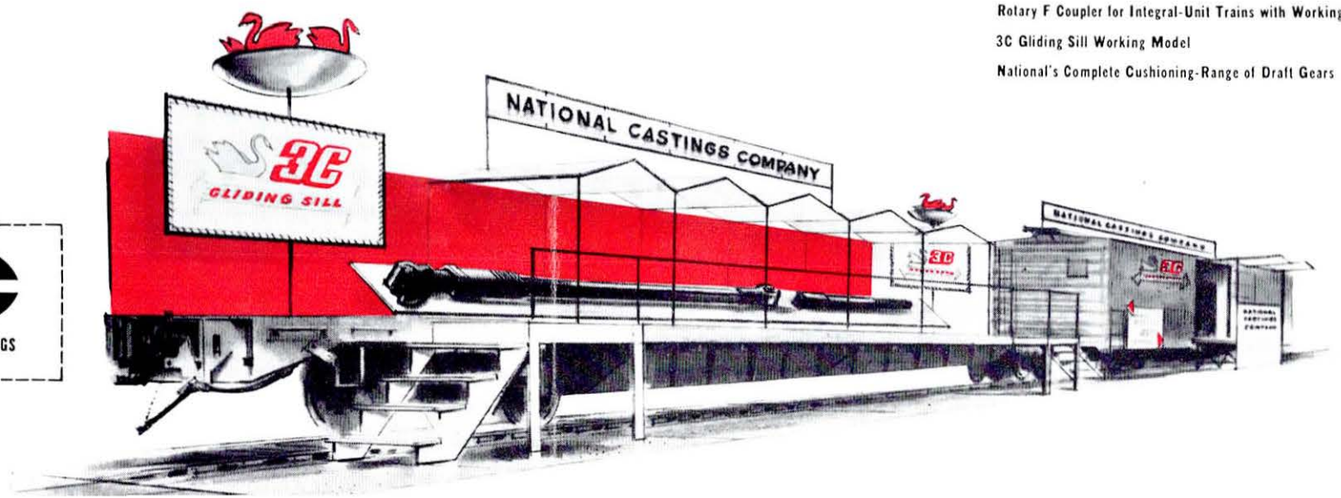

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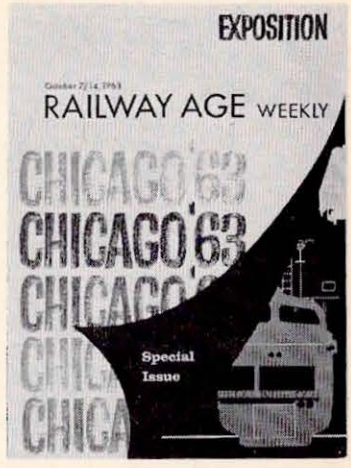

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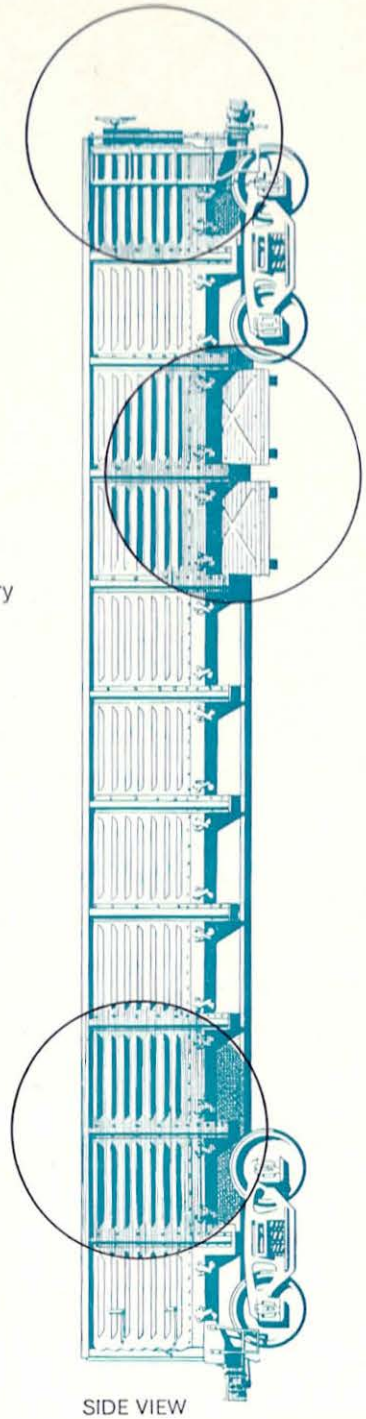
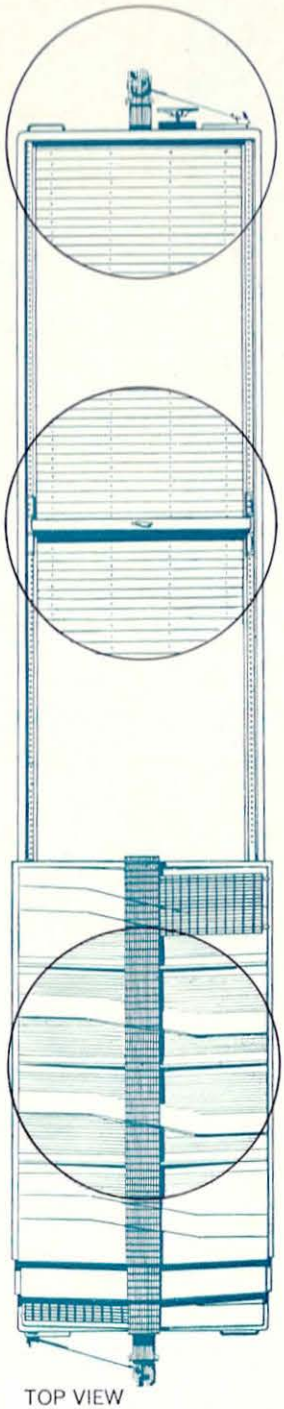


SIDE VIEW



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RAILWAY AGE WEEK AT A GLANCE

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36th annual P&S meeting will be a no-frills affair.....**p.127**

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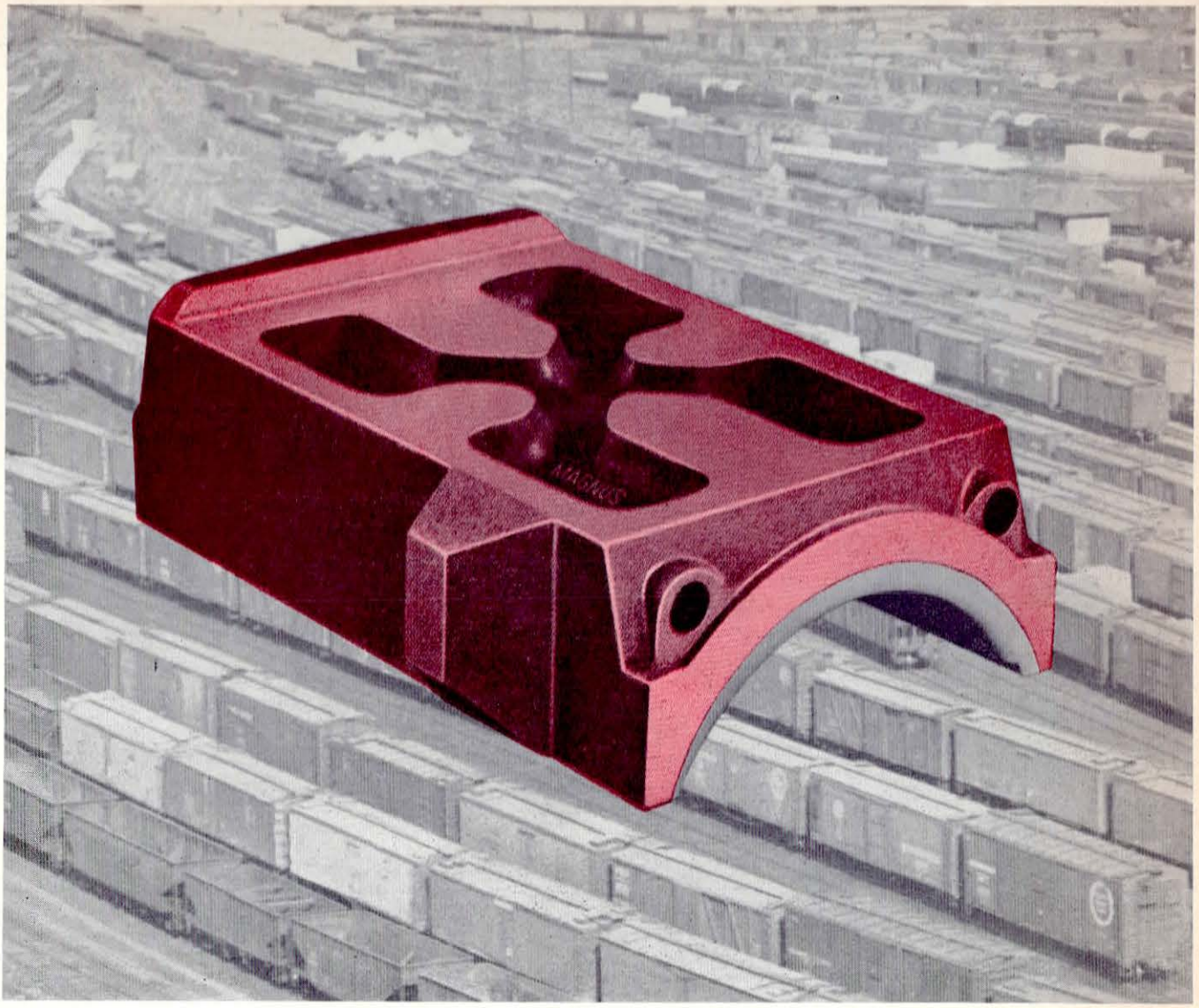
Current Statistics

Operating revenue	
6 mos., 1963	4,714,888,444
6 mos., 1962	4,703,908,621
Operating expenses	
6 mos., 1963	3,683,992,541
6 mos., 1962	3,712,959,223
Taxes	
6 mos., 1963	464,644,151
6 mos., 1962	523,652,505
Net railway operating income	
6 mos., 1963	359,753,801
6 mos., 1962	275,271,282
Net income, estimated	
6 mos., 1963	270,000,000
6 mos., 1962	181,000,000

Carloadings revenue freight	
38 wks., 1963	20,897,373
38 wks., 1962	20,973,984
Freight cars on order	
Sept. 1, 1963	20,749
Sept. 1, 1962	12,429
Freight cars delivered	
8 mos., 1963	27,564
8 mos., 1962	26,706
Serviceable cars	
Sept. 1, 1963	1,410,178
Sept. 1, 1962	1,437,496
Cars awaiting repairs	
Sept. 1, 1963	118,135
Sept. 1, 1962	135,257



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RAILWAY AGE EXPOSITION ISSUE
OCTOBER 7/14, 1963

Showtime at Chicago

In Chicago this week, the curtain goes up on a set any stage designer might envy – a stage that cost more than $40 million to prepare. This is the American Railway Progress Exposition—the greatest combination of exhibits and meetings ever put together in the railroad industry. By Broadway standards, this show will have a short run—only eight days, from Wednesday, Oct. 9, to Wednesday, Oct. 16. But during those eight days, more than 30,000 railroad officers and others connected with transportation – shippers, suppliers – will be on hand for the exhibit, for the meetings of the more than 25 participating organizations. Over the Oct. 12-13 weekend, other thousands will have a chance to see today's railroad technology, when the track exhibits will be open to the general public. And, though the Exposition's run may be short, there's confidence it will be profitable—for the organizations holding their annual meetings and for the delegates attending them; for the more than 350 railway supply companies whose exhibits fill McCormick Place and nine tracks at Illinois Central's 31st Street Yard; and for the railroad industry generally, through the attention the Exposition will focus on railroad transportation. The list of speakers for Exposition sessions is a long one, dotted with prominent names—among them AAR President Daniel P. Loomis and Vice Presidents C. D. Buford and W. H. Keller; Secretary of the Navy Fred Korth; Sen. Warren G. Magnuson, chairman of the Senate Commerce Committee; Rep. Oren Harris, chairman of the House

World's largest display of railroad equipment

Interstate and Foreign Commerce Committee; ICC Member Kenneth H. Tuggle; Dr. Edward H. Litchfield, chancellor of the University of Pittsburgh; Richard H. Amberg, publisher of the St. Louis Globe-Democrat; and economist Murray Shields.

From individual railroads, there'll be New York Central President A. E. Perlman; S. T. Saunders, chairman and chief executive officer of the Pennsylvania; W. H. Kendall, president of the Louisville & Nashville; Cotton Belt President H. J. McKenzie; B. F. Biaggini, executive vice president of Southern Pacific; J. H. Lloyd, Missouri Pacific vice president; and C. E. Bertrand, Baltimore & Ohio vice president.

And, to add an international flavor to the show, there's another long list of officers of foreign railroads who will be attending as observers.

During the first week of the Exposition, meeting emphasis will be on AAR affairs. Independent organizations will take over centerstage after the weekend.

● **AAR meetings set.** For the AAR, there'll be a board-of-directors meeting and a member-road meeting—plus the annual sessions of nine AAR divisions and sections. Conference schedules include the Association's Accounting, Engineering, Mechanical, Operating-Transportation and Purchases & Stores Divisions; the Communication & Signal and Freight Loss & Damage Prevention Sections; the Motor Transportation Officers and the Station Operation Officers. Several AAR groups will actually begin meeting Tuesday, Oct. 8, as will the Railroad Public Relations Association.

For the second week, the docket shows meetings of the Coordinated Mechanical Associations, the American Railway Bridge & Building Association, the Roadmasters & Maintenance of Way Association, the National Association of Railway Business Women.

● **RPI awards to be made.** The Railway Progress Institute's annual meeting is scheduled for the first week (along with presentation of RPI's Golden Freight Car Awards for excellence in freight-traffic promotion); the National Association of Shippers Advisory Boards will be in Chicago for their annual session during the second week of the Exposition.

Exhibits will be open weekdays from 8:30 a.m. to 5 p.m.; track exhibits will be open to the public from 10 a.m. to 5 p.m. Saturday and Sunday. Four organizations lined up the exhibits—the Association of Track & Structures Suppliers, the National Railway Appliances Association, the Railway Signal & Communications Suppliers Association and the Railway Supply Association, Inc.

J. P. Kleinkort, of American Brake Shoe Co., is chairman of the Combined Railway Suppliers Exhibit, and A. A. Frank, of the Stanray Corp., is vice chairman. Directors of exhibits are S. C. Johnson and Albert Schiffers, Jr.

The executive committee for the exposition: W. H. Allen of the Railway Signal & Communications Suppliers Association; G. R. Betts, Armco Steel Corp.; Kenneth Cavins, Fairmont Motors, Inc.; H. R. Deubal, Chicago Pneumatic Tool Co.; C. E. Grigsby, American Steel Foundries; R. B. Little, Eaton Manufacturing Co.; W. B. Loewenherz, K. W. Battery Co.; R. F. McCall, Motorola Corp.; D. I. Packard, Brandon Equipment Co.; J. Porter, General Railway Signal Co.; J. G. Rees, Westinghouse Air Brake Co.; and P. J. Wolf, Maintenance Equipment Co.

● **30,000—and $40 million.** Put it all together and it adds up to more than 30,000 people—and more than $40 million worth of railroad equipment, some of it costing a few dollars, some running into the hundreds of thousands of dollars.

Months of planning, thousands of dollars have gone into preparation for the Exposition. New equipment developments have been pushed to completion for this, the first big combined meeting-exhibit in eight years.

The result is an impressive panorama of progress in railroading, of technology applied to the job of moving goods and people more efficiently, more economically.

● **PR aspect significant.** One of the major benefits of the Exposition may be the creation of an increased public awareness of the industry and its capabilities. Press coverage of the meetings and exhibit is expected to be extensive. Industry publications have prepared special editions marking the event—and daily editions of Railway Age, published on each of the six Exposition working days, will provide a complete, day-by-day record of the meetings and exhibits. Several special press tours have been set up by the AAR—including a preview of the exhibits and a tour of the AAR Research Center.

Probably the most significant exhibits—those the public can immediately tie to progress in railroading—are down at the IC's 31st Street Yard.

● **From idea to actuality.** Visitors to the track exhibit will see equipment that was just an idea in the mind of a research-and-development man a few years back—massive diesel locomotives packing 5,000 horsepower and up; freight cars that have suddenly grown to 100-ton capacity; new trailer and flatcar designs that are spurring the phenomenal growth of piggyback; rack cars that have enabled railroads to recapture new-automobile traffic; track-maintenance equipment that helps to cut costs at the same time that it boosts efficiency.

Just as impressive to transportation men are the exhibits at McCormick Place, where more than 300 supply companies have booth space. Equipment at the exhibit hall may pack less dramatic punch—but it's of equal importance in helping the railroads to a better job.

● **It's almost unanimous.** Very few railway suppliers of any size are sitting this one out. The track exhibit, for example, includes new high-horsepower locomotives by all three builders (Electro-Motive Division, Alco and General Electric), as well as entries by 11 carbuilders—ACF, Bethlehem Steel, Budd, General American, General Steel Industries, Greenville Steel Car, Pullman-Standard, Thrall Car Manufacturing, Union Tank and two newcomers, Whitehead & Kales and Strick Trailers-Fruehauf.

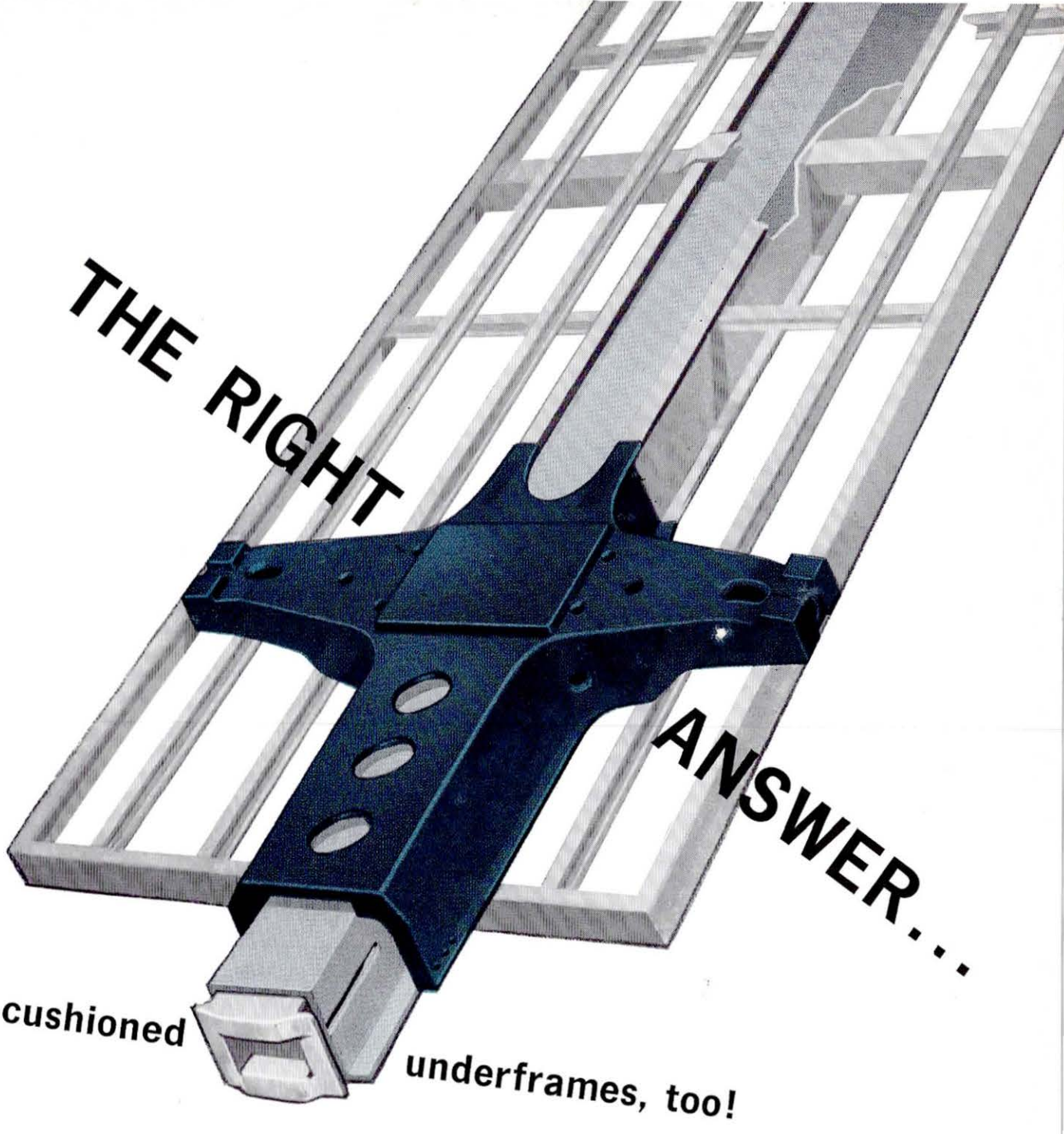
Also on the track exhibit list are several piggyback-trailer-container manufacturers, steel and aluminum companies, makers of freight-car cushioning devices and manufacturers of a variety of other railway appliances.

● **'The greatest.'** Over-all, according to the AAR, the exhibits represent the largest display of railroad equipment ever put together, anywhere in the world. And the 30,000-plus who will converge on Chicago during the eight-day Exposition may well be the largest group of rail-oriented transportation men ever assembled at one place, at one time. The Exposition comes at a significant time—when railroads seem to be picking up momentum on a variety of fronts.

Freight traffic is down slightly for the year, in terms of carloadings—but revenue-ton-mile totals show a sizeable increase from 1962 levels. Moreover, based on first-half results, net income for the industry for the full year may be well above the totals recorded last year.

● **Support for the industry.** Public opinion, meanwhile, appears to be swinging in behind the railroads in several areas. Most noteworthy was the support given the industry in the work-rules dispute. But there are also signs of increasing support for minimum-rate legislation and other elements of Presi-

(*Continued on page 197*)



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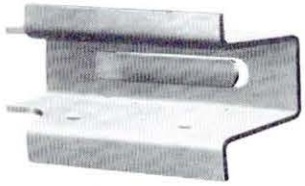

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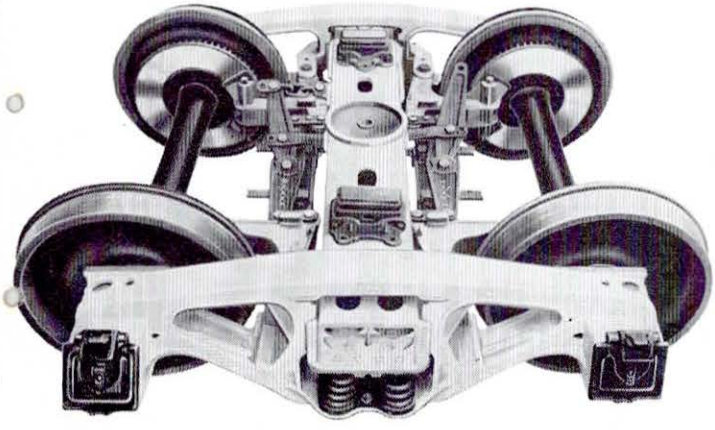

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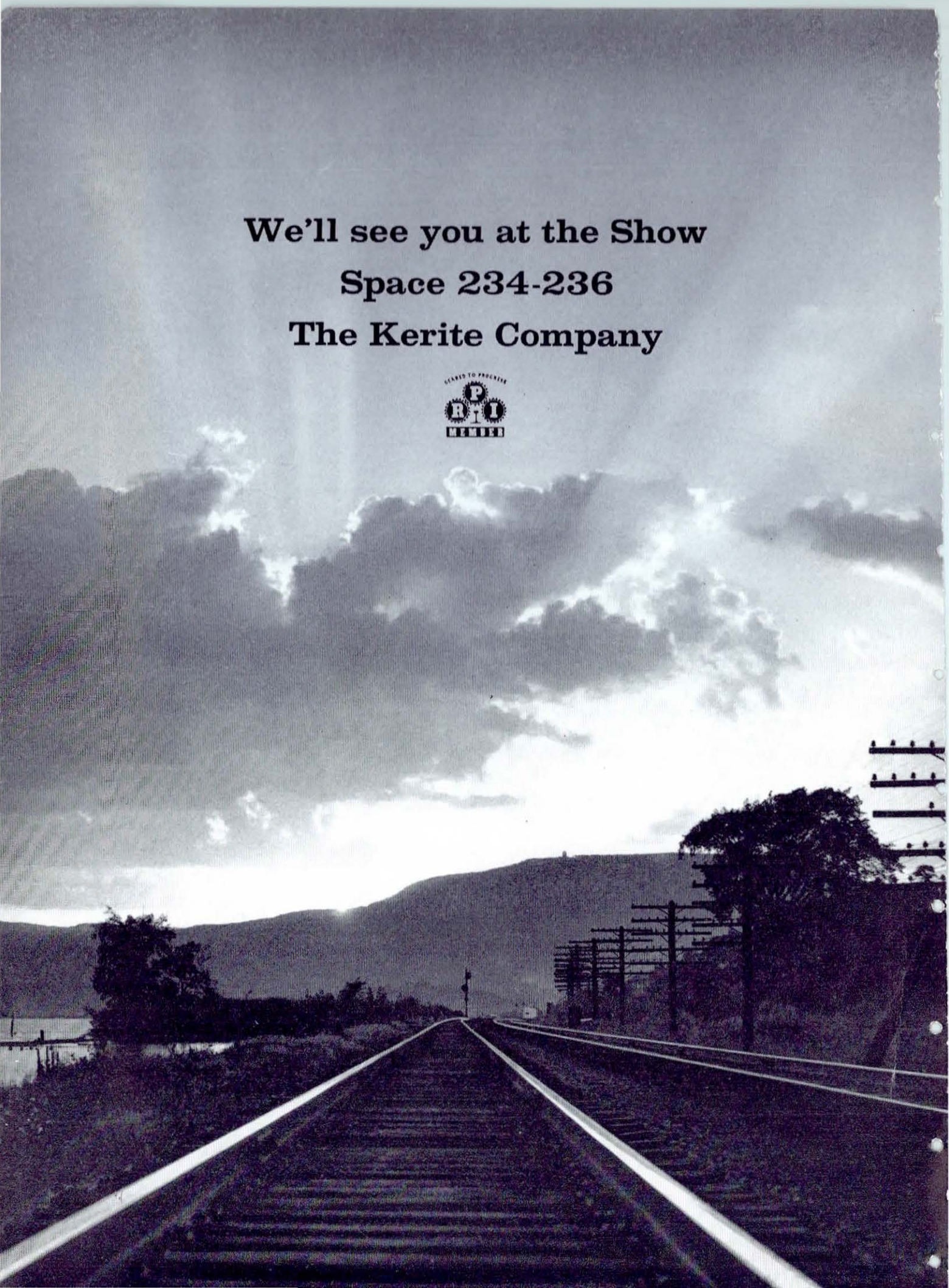
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RAILROADING AFTER HOURS WITH JIM LYNE

LYNE

'RATE BUREAU' CHIEFS—Three of the railroad industry's most strategic assignments get relatively little public attention—even among other railroaders. These are chairmanships of the principal territorial rate associations—South, East and West. These three rate associations are the top railroad authority on all questions of pricing (responsible for protecting and increasing $8 billion of annual freight revenue). Since the sessions of these associations are, for the most part, necessarily "closed" except to official members, few people know of the heavy volume of intricate work they do, and the skill required of their presiding officers—to keep the peace and avoid delays and derailments.

These reflections are aroused by the retirement of two of these three territorial chairmen during the current month—T. H. Maguire (West) on Oct. 1 and O. E. Schultz (East) on Oct. 31. As noted in the "People" columns of this issue, James Souby, Jr., has succeeded Mr. Maguire, and R. C. Gill will take over for Mr. Schultz.

My guess is that there would be less complaining about "rate bureaus" if some practicable way could be found of giving the critically inclined a first-hand look at the enormous work load of these organizations and how they really operate.

UNIONS SUPPORT DEREGULATION—The unions have come around to support the Kennedy bills to deregulate railroad rates on bulk and agricultural commodities. Their previous opposition (as I noted here Sept. 2) had left me completely bewildered. Meantime, Frisco's Mart Pomphrey showed me President L. W. Menk's frank statement to that road's employees on these bills, questioning whether the unionists' opposition to them was in the employees' interest.

These bills, if enacted, would enable the railroads to compete more effectively than they can now with barges and trucks—and how that result could be otherwise than beneficial to employees, I cannot imagine.

GAUGING THE EARNINGS SITUATION—Before me are two recent summaries of railroad performance which, to me, are highly informative. One is the annual compilation by the Security Research Bureau (1601 Walnut Street, Philadelphia 2), entitled "Comparisons of Certain Railroad Indicators." What the compilation does is show, railroad by railroad and by regions, operating revenues in 1960, 1961 and 1962—giving comparisions with the 1947-49 average. And a large number of other revelatory figures are similarly compared.

There's no more convenient listing that I know of, to show the sharp differences that exist between individual railroads. Just for instance, the five roads that in 1962 showed the biggest gains over 1947-49 had an increase of 32% in their operating revenue, while the five roads at the bottom of the list showed a decrease of 31%.

The other publication is called "Railroad Industry Review—1963, Green Light Ahead." It surveys frankly the various factors (including the political) bearing upon the railroads' likely future, and concludes that "favorable factors will be translated into permanently higher earnings." Heartening reading. The booklet is issued by the investment firm of Hayden, Stone & Co.

MORE SOCIALIZED TRUCKING—When the Labor Party was last in power in Britain it took over the railroads and most of the for-hire truckers. When the Conservatives got in, they sold off a lot of the trucking to private concerns. What will happen in transportation if the Laborites get back in power—as they appear to believe they will ?

There's a partial answer to that question in an article I've been reading by Harold Wilson, who thinks he's going to be Britain's next Prime Minister. He says the government won't bother buying up the private truckers but, instead, will expand the truck lines still in government ownership—which, says Wilson, are "highly profitable." And he'll integrate these truck operations with the railways.

Trucking isn't a teacher's pet business in Britain, the way it often is here.

WHAT'S A HOBO ANYHOW?—I read in Time Magazine that "the American hobo has nearly died out." Possibly it's because the countryside is too well policed, because most railroad freight equipment no longer provides easy accommodations for free passengers, and because diesel-powered trains move too fast for easy boarding and unloading.

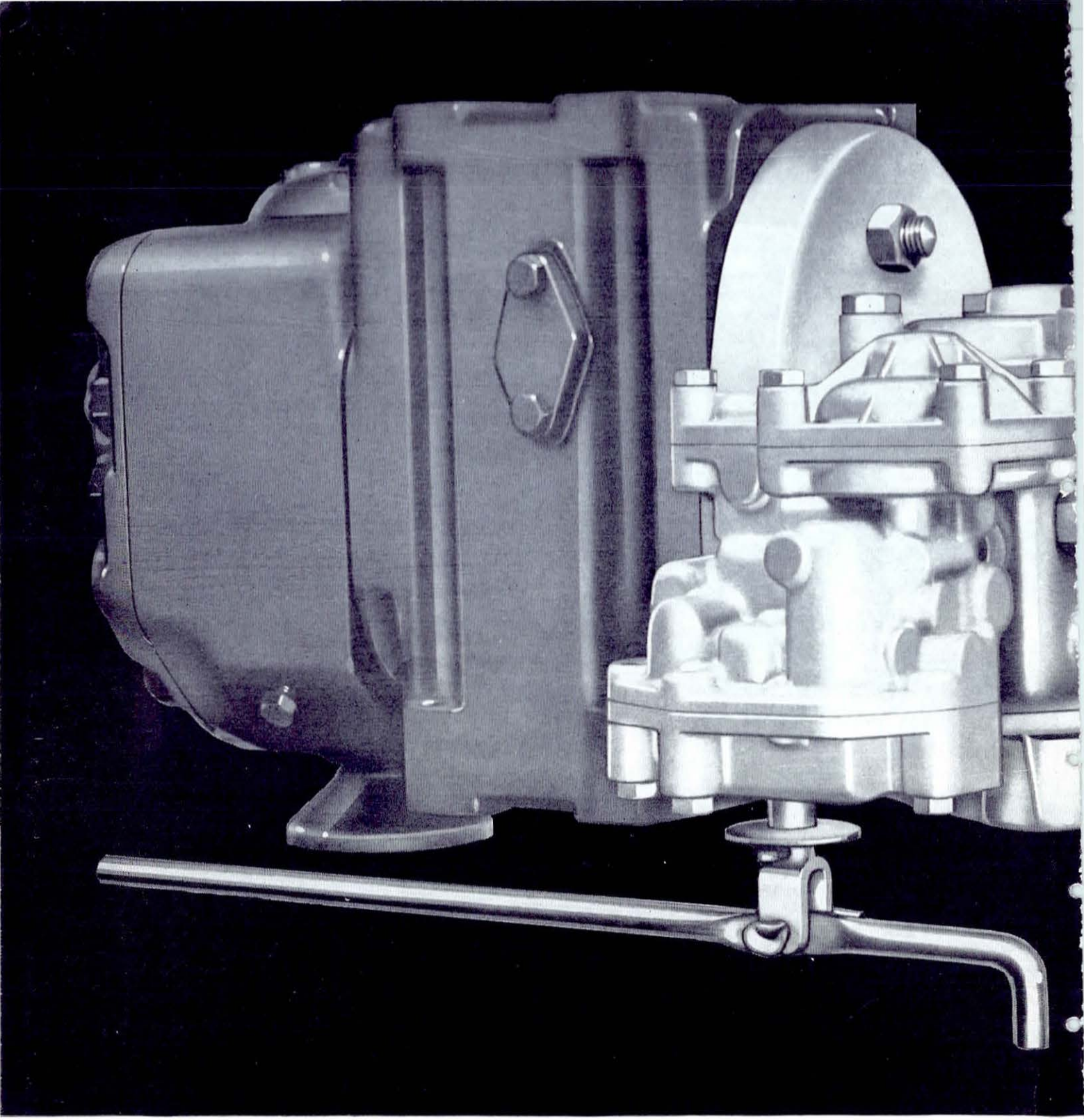
Not all so-called hoboes were the real thing. Most of them were fellows moving from one job to another at minimum expense. Many of the extra gangs on railroad track work were largely made up of "hoboes," but they weren't professional tramps. And, during the wheat harvest before the day of modern machinery, there were tens of thousands of free riders on freight trains—and the crops would have spoiled in the fields without them.

WHAT MAKES A MANAGER?—I was reading the other day—in a New York Times supplement, apparently published in behalf of the American Management Association—that 130 out of 214 (61%) managers said "ability to get along with people" is the most important trait in an executive. They considered this attribute to be more vital than "intelligence, decisiveness, knowledge or job skills."

Ability to get along with people is certainly a praiseworthy trait, but I have always thought that the knack of getting desired results is the principal qualification of a successful manager.

FIREMEN THEN AND NOW—In Life magazine, I noticed a piece on the job of firing locomotives, by Gilbert Burck. The author goes on to tell in a great deal of detail about how really difficult a job firing used to to be—especially before the advent of the automatic stoker. But the job was no vacation even with a stoker. Burck happens to know what he is talking about—because he worked his way through the University of Minnesota back in the Twenties by putting in summers firing locomotives up in the ore country.

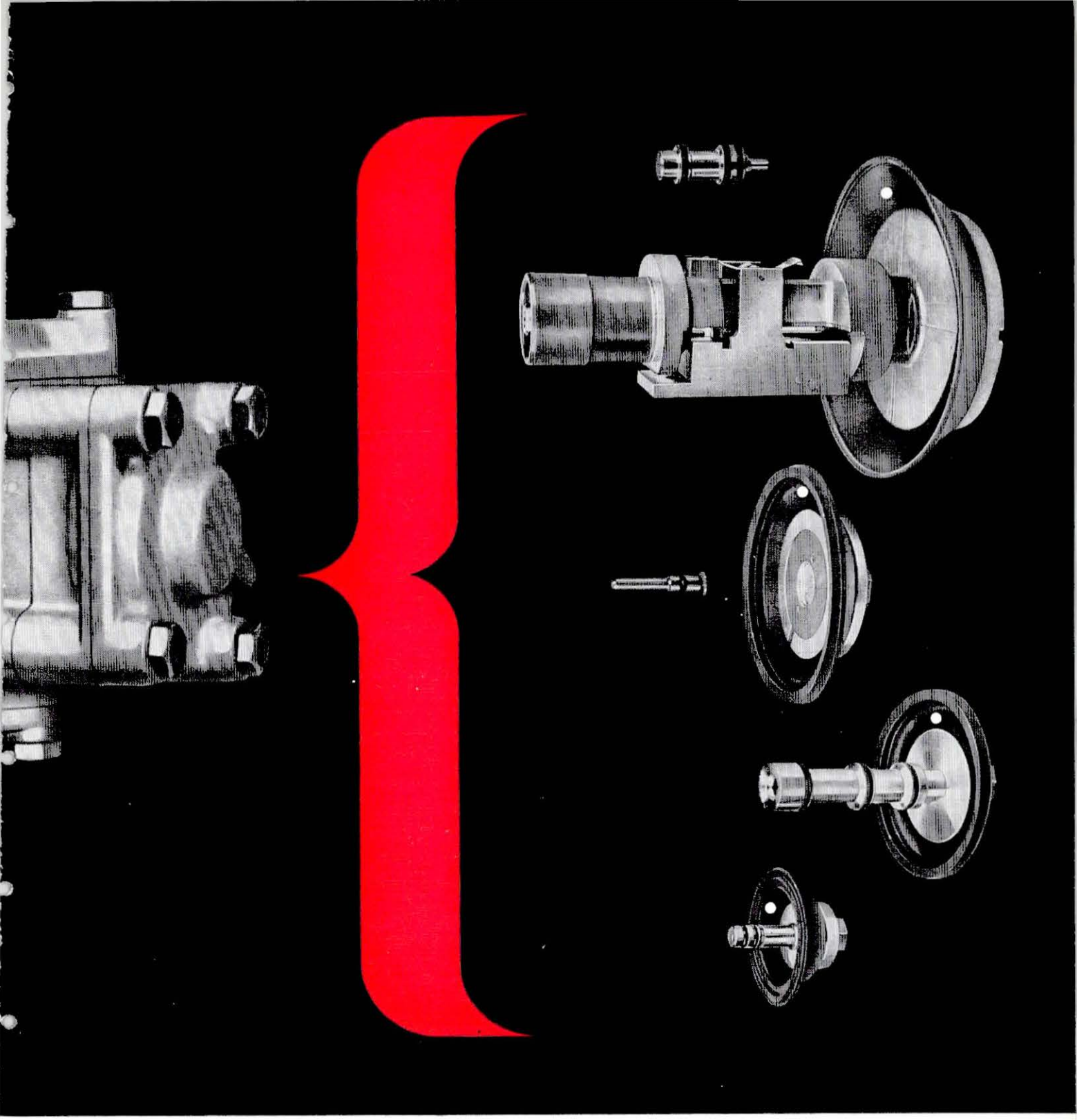
Burck (for many years now an editor of Fortune Magazine) has recently looked over the firemen's present duties and, according to his report in Life, he notes that they are considerably less strenuous than they used to be—the difference being about that between a cigar store Indian and a real Sioux warrior.



THE ABD-1 VALVE provides

Diaphragms and "O" ring seals in the service portion of the new ABD-1 freight control valve eliminates costly wear and fitting problems. Close tolerance metallic pistons and their potential leakage and maintenance problems are gone. Maintenance is simple—No special skills are required.

The new ABD-1 Valve consists of a vertically-mounted, diaphragm-operated service valve, an integral brake cylinder release valve, and an accelerated service release feature. Valves with these same features have been in heavy duty freight service over six years and show reliable and consistent operation greatly in excess of the present C.O.T.&S. period. Because the service piston is vertically mounted, vibrations have little or no effect. The accelerated release allows running release at low



for extended C.O.T.&S.

train speeds without the risk of break-in-two.

The ABD-1 service portion can be mounted directly to the standard pipe bracket without filler pieces or modifications and performs all standard service functions. The new WHITE MARK Rubber diaphragms are specially constructed to give long, trouble-free service life at —50° to 200° F. For complete information, write for Bulletin SP9017.

WABCO

WESTINGHOUSE AIR BRAKE DIVISION

WILMERDING, PENNSYLVANIA / Westinghouse Air Brake Company

"This is the best way we know of saying thank you to the American Railroads."

W R Timken

PRESIDENT,
THE TIMKEN ROLLER BEARING COMPANY

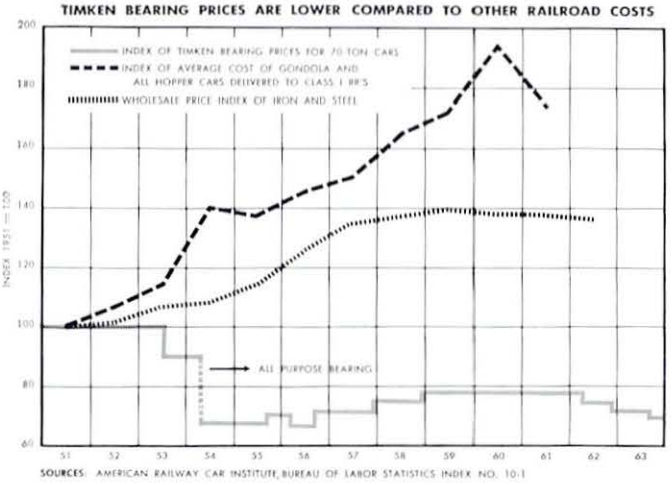
This headline is from a telegram sent to our railroad customers on August 15, when we made our one-millionth "AP" bearing and announced a 5% reduction in price on Class "E" 70-ton and Class "F" 100-ton Timken® tapered roller bearings. This is the *third* price reduction, totaling approximately 15 per cent, made in the past 16 months.

These price reductions result from the growing acceptance of Timken "AP" bearings for railroad freight cars. It is the product of full employment of modern production techniques. It is a prediction come true.

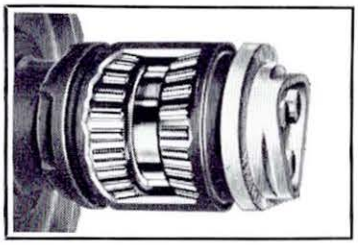
In 1958, we invested seven million dollars to build a mechanized production line in Columbus, Ohio solely for "AP" railroad bearings. "This new facility," we said at the time, "is designed to meet the demand of a regular, planned 'Roller Freight' program. And, if railroads make the most of it, costs can be kept down."

The railroads have made the most of it. In 1960 we invested another five million dollars and doubled our production capacity at Columbus. This modern plant has effected attractive savings to the railroads, as our chart comparing Timken bearing prices to other railroad costs, indicates.

Today, the additional cost of roller bearings for the average freight car is about $600—less than 5% of total car cost. In 1949, that figure was $1,200—or 25.3% of average total car cost.



This is the kind of leadership you can expect from the world's largest and most experienced manufacturer of tapered roller bearings—and the pioneer of "Roller Freight." The Timken Roller Bearing Company, Canton 6, Ohio. Also manufacturers of Fine Alloy Steel and Removable Rock Bits.

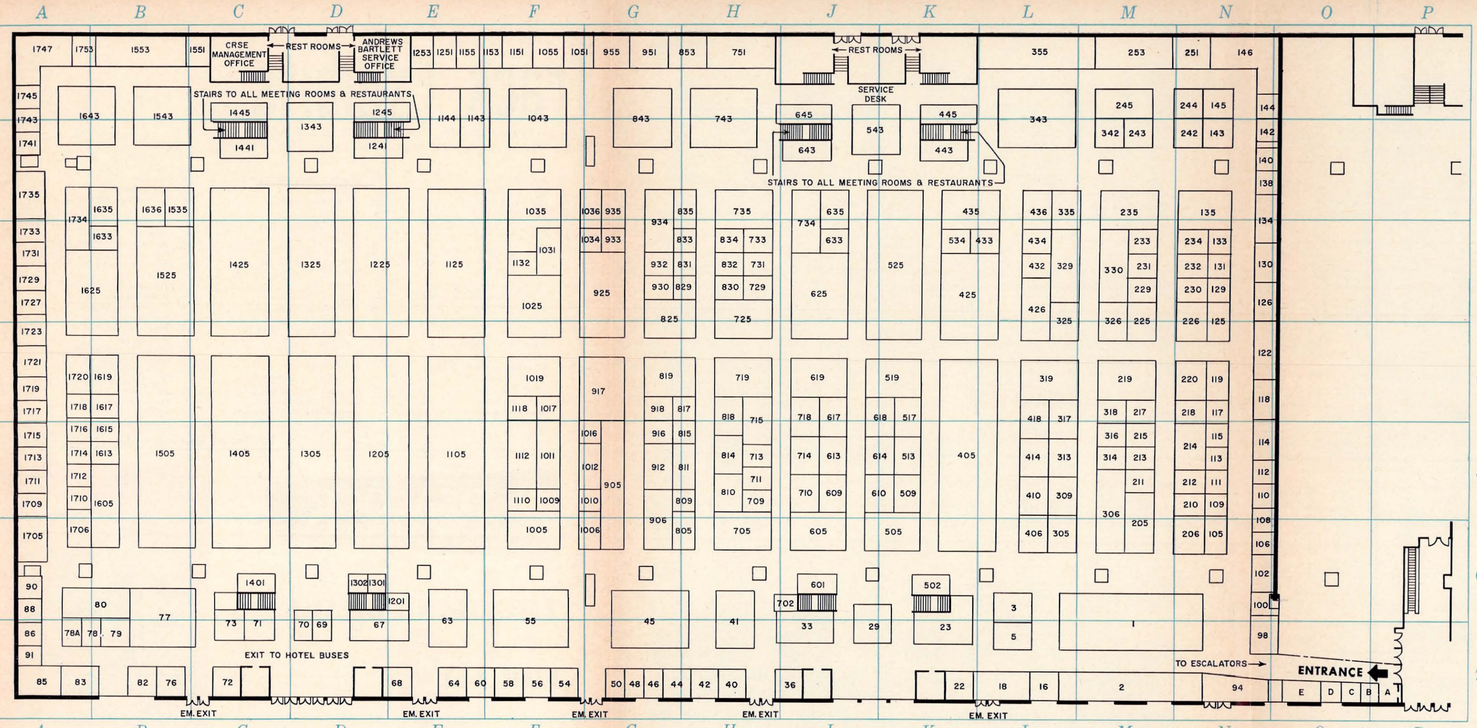


QUALITY TURNS ON HEAVY DUTY

TIMKEN®

TAPERED ROLLER BEARINGS

WE HAVE SOMETHING IN STORE FOR YOU AT BOOTH *619* AT THE *AMERICAN RAILWAY PROGRESS EXPOSITION,* McCORMICK PLACE, CHICAGO, OCTOBER 9 THROUGH 16.



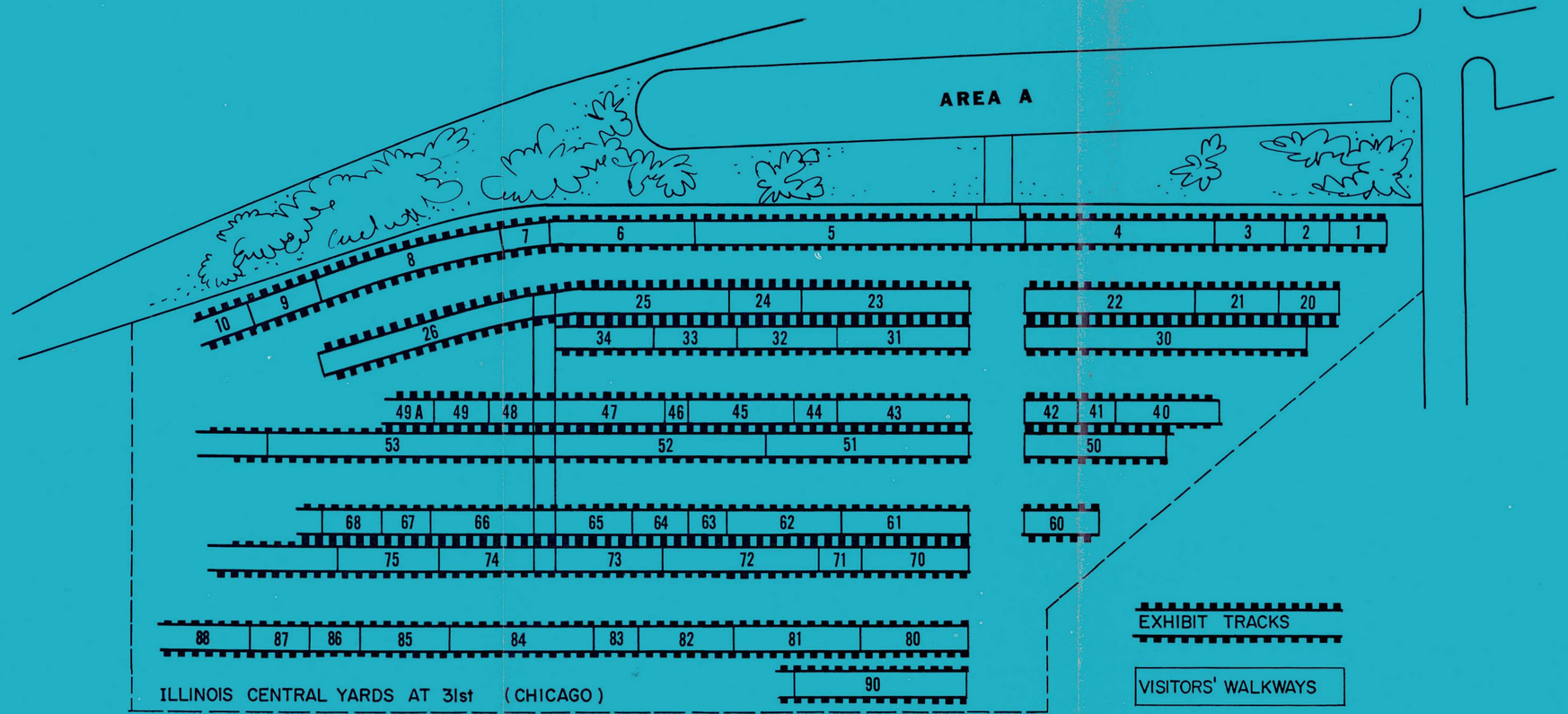
Indoor Exhibits

American Railway Progress Exposition—Combined Railway Suppliers Exhibit—McCormick Place, Chicago, Oct. 9-16, 1963.

BOOTH NUMBER	COOR-DINATE	EXHIBITOR
1741	A-2	Achuff Railway Supply Co.
725	H-3	Adams & Westlake Co.
60	E-7	Addressograph-Multi-graph Corp.
719	H-4	Aeroquip Corp.
930	G-3	Air-Maze Div. of Rockwell-Standard Corp.
1731	A-3	Airstream, Inc.
1733	A-3	"
601,	J-6	Alco Products, Inc.
906	G-5	Alco Products, Inc.
811	H-5	Alert Mfg. & Supply Co.
78A	A-7	Allen Paper Co.
1615	B-5	Amchem Products, Inc.
713	H-5	American Air Filter Co., Inc.
917	G-4	American Brake Shoe Co., Railroad Products Div.
925	G-3	"
933	G-3	American Hoist & Derrick Co.
1251	E-1	American Railroad Supply Co.
618	K-4	American SAB Co., Inc.
1	M-6	American Steel Foundries, Inc.
205	M-5	American Telephone & Telegraph Co.
142	N-2	Anaconda Wire & Cable Co.
1605	B-5	Armco Steel Corp. Armco Div. Metal Products Div.
1714	A-5	Automated Building Components, Inc.
233	M-3	Baldwin-Lima-Hamilton Corp.
69	D-7	Bearing Inspection, Inc.
810	H-5	Bearing Service Co.
C	O-7	Beck Duplicator Co., Inc.
94	N-7	Berman Leasing Co.
1633	B-3	Bernuth, Lembcke Co., Inc.
229	M-3	Berwick Forge & Fabricating Corp.
225	M-3	Binkley Co.
1723	A-4	Binks Mfg. Co.
1706	A-6	Bogle Co., R. H.
1551	C-1	Bondarc Corp.
617	J-4	Brandon Equipment Co., Inc.
733	H-3	Brenco, Inc.
83	A-7	Bruce Co., E. L., Inc.
78	B-7	Buck Equipment Co.
843	G-1	Buckeye Steel Castings Co.
543	J-2	Budd Co.
40	H-7	Burrell Flange Lubricator Co.
231	M-3	Calloway Mills, Inc.
406	L-6	Cardwell Westinghouse Co.
1525	B-3	Caterpillar Tractor Co.
502	K-6	C & D Batteries Div. of Eltra Corp.
245	M-1	Chandeysson Electric Co.
1717	A-4	Chapman Chemical Co.
443	K-2	Chicago Malleable Castings Co.
1112	F-5	Chicago Pneumatic Tool Co.
253	M-1	Chicago Railway Equipment Co.
1635	B-2	Chipman Chemical Co., Inc.
718	J-4	Chromium Corp. of America
330	M-3	Cities Service Oil Co.
82	B-7	Claybourne Mfg. Co.
36	J-7	Cleveland Graphite Bronze, Div. of Clevite Corp.
1201	E-6	Cleveland Technical Center
1011	F-5	Colorado Fuel & Iron Corp.
42	H-7	Component Engine Parts, Inc.
1245	D-1	Conley Frog & Switch Co.
1747	A-1	Cox Company, W. T.
1035	F-2	Cullen-Friestedt Co.
129	N-3	Cushman Electronics, Inc.
98	N-7	Davis Brake Beam Co.
309	L-5	Dayco Corp.
317	L-4	Dayton Steel Foundry
1441	C-2	Dearborn Chemical Co.
243	M-2	Dempster Brothers, Inc.
72	C-7	Desitronics, Inc.
86	A-7	Detroit Graphite Co.
215	M-5	Do Company
1343	D-2	Dow Chemical Co.
211	M-5	Drott Mfg. Corp., Travelift Div.
1705	A-6	Du Pont de Nemours & Co., E. I.
1016	G-5	Duff-Norton Co.
702	J-6	Du-Wei Steel Products Co.
1143	E-1	Eaton Mfg. Co., Reliance Div.
206	N-6	Edison Industries, Thomas A.
513	K-5	Elastic Stop Nut Corp. of America
316	M-5	Electric Materials Co.
219	M-4	Electric Storage Battery Co., Exide Industrial Marketing Div.
405	K-5	Electro-Motive Div. of General Motors Corp.
210	N-5	Electronic Communication Equipment, Inc.
111	N-5	Electronic Technology Research, Inc.
751	H-1	Ellcon National, Inc.
41	H-6	Enterprise Railway Equipment Co.
815	H-5	Equipment Research Corp.
735	H-2	Evans Products Co.
77	B-6	Evinrude Motors, Railroad Products Section
1012	G-5	Fabreeka Products Co., Inc.
534	K-3	Fairbanks, Morse & Co.
1305	D-5	Fairmont Railway Motors
1325	D-3	"
934	G-2	Farr Co.
D	O-7	Fast-Lok Div. of Lake Center Switch Co.
711	H-5	Fine Organics, Inc.
1716	A-5	Foundation Equipment Corp.
633	J-3	Frampton & Co., D. B., Doweloc Div.
1051	F-1	Freightmaster Div. of Halliburton Co.
46	G-7	Frost Paint & Oil Corp.
1719	A-4	Geigy Agricultural Chemicals Div. of Geigy Chemical Corp.
1110	F-5	General Chemical Co.
343	L-1	General Electric Co.
146	N-1	General Railway Signal Co.
436	L-2	General Radiator, Inc.
509	K-5	General Steel Industries, Inc.
1711	A-5	Gorman-Rupp Co.
445	K-1	Gould National Batteries, Inc.
54	F-7	Graham White Sales Corp.
1019	F-4	Gray Co., Inc.
605	J-6	Griffin Wheel Co.
242	L-7	Gulf Oil Corp.
44	G-7	Hall Toledo, Inc.
106	N-6	Harmon Electronics Co., Inc.
108	N-5	Handling & Shipping Magazine
244	N-1	Hanlon & Wilson Co.
1031	F-3	Hayes Track Appliance Co.
932	G-3	Hennessey Lubricator Co., Inc.
318	M-4	Holland Co.
71	C-7	Holstein, Inc., Fred W.
112	N-5	The Houston Co.
912	G-5	Huck Mfg. Co.
955	G-1	Humble Oil & Refining Co.
326	M-3	Illinois Auto Electric Co.
731	H-3	Illinois Railway Equipment Co.
916	G-5	Impact Register Co.
1155	E-1	Industrial Service & Salvage Corp.
1553	B-1	Ingersoll-Rand Co.
79	B-7	International Business Machines
213	M-5	International Equipment Co., Ltd.
1735	A-2	International Harvester Co.
126	N-3	International Railroads' Weighing Corp.
220	N-4	International Steel Co., Railway Div.
1405	C-5	Jackson Vibrators, Inc.
144	N-1	Johnson Rubber Co.
1636	B-2	Jordan Co., Inc., O. F.
610	K-5	Journal Box Servicing Corp.
414	L-5	Joyce-Cridland Co.
835	H-2	K W Battery Co.
1225	D-3	Kalamazoo Mfg. Co.
1055	F-1	Kelty Radiator Co.
234	N-3	Kerite Co., Inc.
1425	C-3	Kershaw Mfg. Co., Inc.
805	H-6	Keystone Railway Equipment Co.
88	A-6	Kohler Co.
1253	E-1	Konvex Tie Pad Co.
230	N-3	Krautkramer Ultrasonics, Inc.
B	O-7	Kux Mfg. Co.
809	H-5	LFM Mfg. Co., Inc., sub. of Rockwell Mfg. Co.
109	N-5	La Marche Mfg. Co.
68	E-7	The Lamson & Sessions Co.
217	M-4	Lanman Co., E. B.
135	N-2	Lenkurt Electric, Inc.
1718	A-4	LeRoi Div. of Westinghouse Air Brake Co.
833	H-3	Lewis Bolt & Nut Co.
1025	F-3	Linde Co., Oxweld R.R. Dept., Div. of Union Carbide Co.
1543	B-1	Link-Belt Speeder Co.
1036	G-2	Litton Industries Div. of McKiernan-Terry Corp.
951	G-1	Lord Mfg. Co.
29	J-7	M & J Diesel Locomotive Filter Corp.
3	L-6	MacLean-Fogg Lock Nut Co.
609	J-5	Magnus Metal Corp.
614	K-5	Manganese Steel Forge Co.
73	C-7	Mannix International, Inc.
134	N-2	Marquardt Corp., The
1710	A-5	Martin Engineering Co.
1505	B-5	Matisa Equipment Corp.
355	L-1	McDowell-Wellman Companies
935	G-2	Meyer Machine, Inc.
1132	F-3	Mid-West Forging & Mfg. Co.
1715	A-5	Midwest Steel Co.
709	H-5	Miller Felpax Corp.
743	H-1	Miner, Inc., W. H.
119	N-4	Mobil Oil Co.
2	M-7	Modern Railroads
115	N-5	Moore Associates, Inc.
1017	F-4	Moore & Steele Corp.
613	J-5	Morton Mfg. Co.
434	L-3	Mossbach Mfg. Co.
122	N-4	Motorola, Inc.
251	N-1	Movet Industries, Inc.
1302	D-6	Myer, L. W. & Son, Inc.
1144	E-1	Nalco Chemical Co.
235	M-2	National Carbon Co., Div. of Union Carbide Corp.
525	K-3	National Castings Co.
55	F-6	National Cylinder Gas Div., Chemetron Corp.
814	H-5	National Electric Coil Div. of McGraw-Edison Co.
56	F-7	National Forge Co.
710	J-5	National Steel Corp.
102	N-6	Neill Co., Inc., R. W.
635	J-2	New York Air Brake Co.
1734	A-2	Nolan Co.
1125	E-3	Nordberg Mfg. Co.
58	F-7	Nordson Corp.
433	L-3	Nylok Corp.
829	H-3	Oakite Products, Inc.
117	N-4	Okonite Co.
64	E-7	Onan Div., Studebaker Corp.
1745	A-1	Orton Crane & Shovel Co.
1713	A-5	Osmose Wood Preserving Co. of America, Inc.
830	H-3	Parr Paint & Color Co.
140	N-2	Permacrete Products Corp.
1205	D-5	Pettibone Mulliken Corp.
1625	A-2	Plasser Railway Maintenance Corp.
1009	F-5	Pocket List of Railroads
1005	F-6	Poor & Company Meco Products P&M Peerless Products Rail Joint Products
80	B-6	Pratt & Whitney Aircraft, Turbo Power & Marine Dept.
22	K-7	Precision Engineering Co.
1034	G-3	Progressive Railroading
817	H-4	Pyle-National Co.
63	E-6	Racine Hydraulics & Machinery, Inc.
314	M-5	Radiation, Inc.
105	N-6	Radio Corp. of America
226	N-3	Radio Frequency Labs, Inc.
138	N-2	Railroad Accessories Corp.
1721	A-4	"
67	D-7	Railroad Rubber Products, Inc.
1720	A-4	Rails Co.
1105	E-5	Railway Maintenance Corp.
23	K-7	Railway Progress Institute
48	G-7	Railway Service & Supply Corp.
1043	F-1	Railway Track-Work Co.
1301	D-6	Rand McNally & Co.
131	N-3	Ray O Vac Corp.
1619	B-4	Reade Mfg. Co., Inc.
85	A-7	Research Products Mfg. Co.
1006	G-6	Remington Arms Co., Inc.
329	L-3	Reynolds Metals Co.
50	G-7	Russell, Burdsall & Ward Bolt & Nut Co.
831	H-3	Rust-Oleum Corp.
517	K-4	SKF Industries, Inc.
435	K-2	Safety Electrical Equipment Corp.
1643	A-1	Schield Bantam Co.
1712	A-5	Schroeder Bros. Corp.
1118	F-4	Screw & Bolt Corp. of America
643	J-2	Scullin Steel Co.
1729	A-3	Selma Trailer & Mfg. Co.
114	N-5	Servo Corporation of America
734	J-2	Shell Oil Co.
335	L-2	Shunk Mfg. Co., Inc.
418	L-4	Silent Hoist & Crane Co.
E	O-7	Simmons-Boardman
33	J-7	"
426	L-3	Sloan Valve Co.
705	H-6	Southern Electric Co. and Ajax Consolidated Co., Divs. of Petron Electronics Corp.
218	N-4	Speer Carbon Co.
16	L-7	Standard Car Truck Co.
714	J-5	Standard Forgings Corp.
505	K-6	Standard Railway Equipment Div. of Stanray Corp.
715	H-4	Stewart-Warner Corp.
130	N-3	Stromberg Carlson Div. of General Dynamics Corp.
313	L-5	Stucki Co., A.
853	H-1	Super Co.
143	N-2	Sylvania Electronic Systems Div. Sylvania Electronic Products, Inc.
425	K-3	Symington Div. of Symington Wayne Corp.
918	G-4	T-Z Railway Equipment Co.
45	G-6	Tamper, Ltd.
70	D-7	Technibilt Corp.
1010	G-5	Teleweld, Inc.
1241	D-2	Templeton, Kenly & Co.
1617	B-4	Thermex Metallurgical, Inc.
819	G-4	Thompson Products Industrial Sales, Thompson-Ramo-Wooldridge, Inc.
619	J-4	Timken Roller Bearing Co.
133	N-3	Tower Communications Co.
90	A-6	Townsend Co.
1151	F-1	Toyad Corp.
100	N-6	Traffic Service Corp.
645	J-1	Trane Co.
232	N-3	Transcontrol Corp.
325	L-3	Transicold Corp.
110	N-5	Transport Products Corp., Inc.
1535	B-2	True Temper Corp.
729	H-3	Tulsa Railway Seal Mfg. Co.
91	A-7	Tysol Products Div. of Chemical Research Associates
834	H-3	Union Railway Equipment Co.
306	M-5	Union Switch & Signal Co. Div. of Westinghouse Air Brake Co.
342	M-2	Union Spring & Mfg. Co.
1753	A-1	Unit Rail Anchor Corp.
5	L-7	Unit Truck Corp.
1445	B-2	U.S. Borax & Chemical Corp.
410	L-5	U.S. Gypsum Co.
212	N-5	U.S. Radium Corp.
18	L-7	U.S. Steel Corp.
1401	C-6	United Tractor, Inc.
305	L-6	Universal Railway Devices Co.
432	L-3	Van der Horst Corp.
1153	F-1	Van Products Co.
625	J-3	Vapor Corp.
832	H-3	Vascoloy-Ramet Corp.
825	G-3	Waugh Equipment Co.
905	G-5	Western Industries, Inc.
125	N-3	Western Union Telegraph Co.
519	K-4	Westinghouse Air Brake Co.
145	N-1	Westinghouse Electric Corp.
214	N-5	Westran Corp.
118	N-4	Wheel Checkers
1743	A-1	White Mfg. Co.
113	N-5	Whitney Blake Co.
319	L-4	Wine Railway Appliance Div. Unitcast Corp.
76	B-7	Wisconsin Motor Corp.
1613	B-5	Woodings-Verona Tool Works
1709	A-5	Woolery Machine Co.
818	H-4	Wyandotte Chemicals Corp.
1727	A-3	Young & Greenawalt Co.

Exhibitors and space assignments as of Sept. 20, 1963

SIMMONS-BOARDMAN PUBLISHING CORP.



SIMMONS-BOARDMAN PUBLISHING CORP.

Track Exhibits

American Railway Progress Exposition—Combined Railway Suppliers Exhibit—Illinois Central 31st Street Yards, Chicago, Oct. 9-16, 1963.

49	Aeroquip Corp.	25	Electro-Motive Div., General Motors Corp.
83	Air Bulkhead Car Corp.	84	Enterprise Rwy. Equip Co.
21	Alco Products, Inc.	82	Evans Products
64	Aluminium Ltd. Sales, Inc.	30, 40	General American Trans. Corp.
6	Aluminum Co., of America	52	General Electric Co.
31, 43	American Car & Foundry	1	General Steel Industries, Inc.
60, 90	American Steel Foundries	65, 66	Greenville Steel Car Co.
24	Apex Railway Products and A. O. Smith	73	Hyatt Bearings Div., General Motors Corp.
87	Archer Daniels Midland Co.	81	Hydra-Cushion, Inc.
32	Automatic Retailers of America	86	International Steel Co.
62	Bethlehem Steel Co.	20	Keystone Rwy. Equip. Co.
A	Buckeye Iron & Brass Works	71	Koppers Co., Inc., W. P. Div.
33	The Budd Co.	72	Landreth Industries
47	Buffalo Brake Beam Co.	42	McLean-Fogg Lock Nut Co.
10	Caterpillar Tractor Co.	2	W. H. Miner, Inc.
46	Cleveland Graphite Bronze, Div. of Clevite Corp.	48	Minnesota Mining & Mfg. Co.
34	Dana Corp.	61	National Castings Co.
88	Dempster Bros.	45	National Steel Corp.
A	Dorsey Trailers	4	North American Car Corp.
63	Doweloc Div., D. B. Frampton	A	Page & Page Co., Div. of Dura
A	Pak Mor		
A	Pitman Mfg. Co.		
53	Plasser Rwy. Maintenance Corp.		
74	Preco, Inc.		
5, 23	Pullman-Standard-Trailmobile-Transport Leasing		
68	Quaker City Railroad Sales		
A	REA Leasing		
26	Reynolds Metals Co.		
7	Sparton Rwy. Equipment		
3	Standard Car Truck Co.		
9	Strick Trailers		
49-A	Thermex Metallurgical		
67	Thermo King Corp.		
50	Thrall Car Mfg. Co.		
8	Transco, Inc.		
44	Unarco Industries, Inc.		
51	Union Tank Car Co.		
70, 80	United States Steel Corp.		
41	Westinghouse Air Brake Co.		
75	Whitehead & Kales Co.		
A	The White Motor Co.		
85	Whiting Corp.		
22	Youngstown Steel Door Co.		

Exhibitors and space assignments as of Sept. 20, 1963

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American Railway Progress Exposition

Combined Railway Suppliers Exhibit—Chicago, Illinois, October 9-16, 1963

Tuesday, October 8

(Pre-Exposition Events)

ALL DAY—

Accounting Division, AAR: General Committee, Ascot House.

Mechanical Division, AAR: Committee meetings, Morrison Hotel.

8 a.m.-6 p.m.—

Engineering Division, AAR (American Railway Engineering Association): Committee meetings, McCormick Place, Morrison Hotel, and Association headquarters.

9 a.m.—

AAR Special Committee on Freight Car Rollability, Room 1218, AAR headquarters, 59 E. Van Buren St.

10 a.m.-5 p.m.—

Communication & Signal Section, AAR: Registration, Crystal Room, Sheraton-Chicago Hotel.

10 a.m.—

Communication & Signal Section, AAR: Committee of Direction, Sheraton-Chicago Hotel.

NOON—

Purchases & Stores Division, AAR: General Committee, Room 816, Union League Club.

AFTERNOON—

Press preview of McCormick Place and 31st Street track exhibits. Public Relations Committee as hosts.

Wednesday, October 9

(Formal Opening of Exposition)

ALL DAY—

Accounting Division, AAR: Committee on Terminal Companies' Accounts, Ascot House.

Mechanical Division, AAR: Committee meetings, Morrison Hotel.

Station Operation Officers and Motor Transportation Officers, AAR: Joint meeting of memberships, Room 11, McCormick Place.

9:30 a.m.-11:30 a.m.—

Railway Progress Institute: Annual membership meeting, Room 12, McCormick Place.

10 a.m.—

Formal opening of track exhibit at the Illinois Central's 31st Street yard. Speaker: W. J. Osborne, Jr., president and chief executive officer, Pullman, Inc.

10 a.m.-11 a.m.—

Communication & Signal Section, AAR, and Engineering Division, AAR, (American Railway Engineering Association): Joint opening session of memberships, Banquet Room, McCormick Place. Speakers: C. D. Buford, vice president, Operations & Maintenance Department, AAR, and B. F. Biaggini, vice president, SP.

10 a.m.-12:50 p.m.—

Purchases & Stores Division, AAR: Membership meeting, Little Theatre, McCormick Place.

11 a.m.—

Engineering Division, AAR (American Railway Engineering Association): Membership meeting, Banquet Room, McCormick Place.

11 a.m.-5 p.m.—

Communication & Signal Section, AAR: Membership meeting, Chicago Room, McCormick Place.

NOON—

Chicago Transportation Club: Luncheon, Plus Seven Level, McCormick Place, Speaker: W. M. Keller, vice president, Research Department, AAR.

12:30 p.m.—

Communication & Signal Section, AAR—Railway Signal & Communications Suppliers Association: Ladies' Luncheon, East Room, Sheraton-Chicago Hotel.

1 p.m.—

Association of American Railroads: Board of Directors meeting, Sheraton Room, Sheraton-Blackstone Hotel.

6 p.m.—

Railway Progress Institute: Annual Reception and Dinner, Grand Ballroom, Conrad Hilton Hotel (By invitation). Golden Freight Car Awards.

9:30 p.m.—

Communication & Signal Section, AAR—Railway Signal & Communications Suppliers Association: Informal Reception, Grand Ballroom, Sheraton-Chicago Hotel.

Thursday, October 10

ALL DAY—

Accounting Division, AAR: Committee on Disbursement Accounts, Ascot House

Interstate Commerce Commission's Industry Advisory Committee on Railroad Valuation, Room 11, McCormick Place.

MORNING—

Mechanical Division, AAR: Committee meetings, Morrison Hotel.

8:30 a.m.-12 Noon—

Engineering Division, AAR (American Railway Engineering Association): Committee meetings, Rooms 6, 7, 8, 9 and B. McCormick Place.

9:00 a.m.-Noon—

Purchases & Stores Division, AAR: Continuation of membership meeting, Lakeside Room, McCormick Place.

9:30 a.m.—

Railway Signal & Communications Suppliers Association: Annual meeting, Sheraton-Chicago Hotel.

9:30 a.m-Noon—

J. P. Kleinkort
Chairman, CRSE

J. H. Russell
President, ABA

J. M. Lowry
President, B&B Assn.

L. A. Loggins
President, AREA

C. W. Kimball
President, CDOA

C. A. Love
President, LMOA

Communication & Signal Section, AAR: Continuation of membership meeting, Chicago Room, McCormick Place.

9:30 a.m.-12 Noon—

Engineering Division, AAR (American Railway Engineering Association): General Committee (Board of Direction) meeting, Room C, McCormick Place.

10 a.m.—

Association of American Railroads: Member Road Meeting Little Theatre, McCormick Place. Chief executives of AAR member roads in attendance.

NOON-1:45 p.m.—

Association of American Railroads — Combined Railway Suppliers Exhibit: Joint Luncheon, Plus Seven Level, McCormick Place.

12:30 p.m.—

Purchases & Stores Division, AAR—Mechanical Division, AAR—Railway Suppply Association, Inc.: Ladies' luncheon, Banquet Room, McCormick Place.

2:15 p.m.-3:45 p.m.—

All participating organizations: Special joint session of members of all participating groups and their ladies, with invited guests, Arie Crown Theatre, McCormick Place.

EVENING—

Communication & Signal Section, AAR—Railway Signal & Communications Suppliers Association Banquet, Grand Ballroom, Sheraton-Chicago Hotel (By invitation).

Purchases & Stores Division: Reception and Banquet, Terrace Casino, Morrison Hotel.

Friday, October 11

ALL DAY—

Accounting Division, AAR: Committee on Motor Bus, Truck & Air Transportation Accounts, Ascot House.

Mechanical Division, AAR: Membership meeting, Lakeside Room, McCormick Place. Speaker: A. E. Perlman, President, New York Central System.

Station Operation Officers and Motor Transportation Officers, AAR: Continuation of joint meeting of memberships, Room 11, McCormick Place.

8 a.m.-1 p.m.—

Accounting Division, AAR: Committee on Disbursement Accounts, Ascot House.

9 a.m.-12:30 p.m.—

Purchases & Stores Division, AAR: Continuation of membership meeting, Little Theatre, McCormick Place.

9:30 a.m.-12:15 p.m.—

Communication & Signal Section, AAR: Continuation of membership meeting, Chicago Room, McCormick Place.

9:30 a.m.-Noon—

Engineering Division, AAR (American Railway Engineering Association): Committee meeting, Room C, McCormick Place.

9:30 a.m.-3:30 p.m.—

Operating-Transportation Division, AAR: Meeting of chief operating officers and chief transportation officers, Banquet Room, McCormick Place.

NOON—

Operating-Transportation Division, AAR: Luncheon for chief operating officers and chief transportation officers, Banquet Room, McCormick Place (By invitation).

1 p.m.—

Purchases & Stores Division, AAR: General Committee, Promenade Room, Morrison Hotel.

Saturday, October 12

J. A. Welsch
Chairman, AAR
Mechanical Div.

J. F. Nash
Chairman, AAR Operating-Transp. Div.

F. J. Steinberger
Chairman, AAR
P&S Div.

P. J. Wolf
President, Assn. of
Track & Structure
Suppliers

M. D. Partelow
Chairman, AAR Station
Operation Adv. Comm.

D. S. Greer
Chairman, AAR Motor
Transp. Adv. Comm.

L. H. Leikel
President, RF&OOA

R. J. Tyler
President, NASAB

G. R. Betts
President, NRAA

W. B. Loewenherz
President, RSA

J. W. Porter
Chairman, RS&CS

J. D. Cannon
Chairman, RPI

ALL DAY—
McCormick Place Exhibits closed.

10 a.m.-5 p.m.—
Track Exhibit on Illinois Central tracks at 31st Street open to general public.

3:30 p.m.—
American Railway Bridge & Building Association: Executive Committee, Presidents' Suite, Pick-Congress Hotel.

Sunday, October 13

10 a.m.-5 p.m.—
Track Exhibit on Illinois Central tracks at 31st Street open to general public.

10:45 a.m.—
National Association of Railway Business Women: Breakfast, Boulevard Room, Conrad Hilton Hotel.

1 p.m.-5 p.m.—
McCormick Place Exhibits open to all participating groups and to public by invitation.

1 p.m.-5 p.m.—
American Railway Bridge & Building Association: Registration at McCormick Place.

1 p.m.-5 p.m.
Roadmasters & Maintenance of Way Association of America: Registration at McCormick Place.

Monday, October 14

ALL DAY—
Accounting Division, AAR: Committee on Freight Accounts, Ascot House.

9 a.m.-5 p.m.
National Association of Shippers Advisory Boards: Registration at McCormick Place.

9 a.m.-10:30 a.m.
American Railway Bridge & Building Association and Roadmasters Maintenance of Way Association of America: Joint opening session of memberships, Chicago Room, McCormick Place. Speakers: H. J. McKenzie, president, St. Louis Southwestern, and J. H. Lloyd, vice president-operations, Missouri Pacific.

9:30 a.m.-5 p.m.—
National Association of Shippers Advisory Boards: Committee meetings, Rooms 4 through 9, McCormick Place.

10 a.m.-10:45 a.m.
The Air Brake Association: Opening session of membership meeting, Room 10, McCormick Place.

10 a.m.-10:45 a.m.—
Car Department Officers' Association: Opening session of membership meeting, Room 12, McCormick Place.

10 a.m.—10:45 a.m.
The Locomotive Maintenance Officers Association: Opening session of membership meeting, Banquet Room, McCormick Place.

10 a.m.—10:45 a.m.
The Railway Fuel & Operating Officers Association: Opening session of membership meeting, Room 11, McCormick Place. Speaker: C. E. Bertrand, vice president, operation and maintenance, Baltimore & Ohio.

10:50 a.m.—
American Railway Bridge & Building Association, Roadmasters & Maintenance of Way Association of America, The Air Brake Association, Car Department Officers' Association, The Locomotive Maintenance Officers Association and The Railway Fuel & Operating Officers Association: Special Joint session of memberships and their ladies, with invited guests, Arie Crown Theatre, McCormick Place. Speaker: Fred Korth, Secretary of the Navy.

12:30 p.m.—
National Association of Shippers

W. E. Rachels
President, RPRA

R. H. Carpenter
President, Roadmasters Assn.

Otha Smith
National President, NRBW

J. A. Tauer
Chairman, AAR Accounting Div.

H. B. Garrett
Chairman, AAR C&S Section

C. A. Naffziger
Director, AAR Freight L&D Prevention Section

Advisory Boards—Freight Loss & Damage Prevention Section, AAR: Luncheon, Room 8, McCormick Place (By invitation).

1:30 p.m.-4 p.m.—
Roadmasters & Maintenance of Way Association of America: Continuation of membership meeting, Chicago Room, McCormick Place.

2 p.m.-4:30 p.m.—
American Railway Bridge & Building Association: Continuation of membership meeting, Lakeside Room, McCormick Place.

2 p.m.-5 p.m.—
The Air Brake Association: Continuation of membership meeting, Room 10, McCormick Place.

2 p.m.-5 p.m.—
Car Department Officers' Association: Continuation of membership meeting, Room 12, McCormick Place.

2 p.m.-5 p.m.—
The Locomotive Maintenance Officers Association: Continuation of membership meeting, Banquet Room, McCormick Place.

2 p.m.-5 p.m.—
The Railway Fuel & Operating Officers Association: Continuation of membership meeting, Room 11, McCormick Place.

7 p.m.—
Coordinated Mechanical Associations — Railway Supply Association, Inc.: Banquet, Terrace Casino, Morrison Hotel (By invitation).

Tuesday, October 15

ALL DAY—
Accounting Division, AAR: Committee on Freight Accounts, Ascot House.

8:30 a.m.-NOON—
The Railway Fuel & Operating Officers Association: Continuation of membership meeting, Room 11, McCormick Place.

9 a.m.-NOON—
The Air Brake Association: Continuation of membership meeting, Room 10, McCormick Place.

9 a.m.-NOON—
Car Department Officers' Association: Continuation of membership meeting, Room 12, McCormick Place. Speaker: W. M. Keller, vice president, research department, AAR.

9 a.m.-NOON—
The Locomotive Maintenance Officers Association: Continuation of membership meeting, Banquet Room, McCormick Place.

9 a.m.-5 p.m.—
National Association of Shippers Advisory Boards: Registration, Mezzanine Foyer, Morrison Hotel.

9:30 a.m.-11:45 a.m.—
American Railway Bridge & Building Association: Continuation of membership meeting, Lakeside Room, McCormick Place.

9:30 a.m.-11:45 a.m.—
Roadmasters & Maintenance of Way Association of America: Continuation of membership meeting, Chicago Room, McCormick Place.

9:30 a.m.-5 p.m.—
National Association of Shippers Advisory Boards: Board of Directors Meeting, Madison III Room, Morrison Hotel.

10 a.m.—
Association of Track & Structure Suppliers: Annual Meeting, Room A, McCormick Place.

10 a.m.-1 p.m.—
Accounting Division, AAR: Committee on Passenger Accounts, Ascot House.

NOON—
Coordinated Mechanical Associations — Railway Supply Association, Inc.: Reception, Room B, and Luncheon, Banquet Room, McCormick Place. Speaker: W. H. Kendall, president, Louisville & Nashville (By invitation).

12:30 p.m.-2 p.m.—
National Association of Shippers Advisory Boards: Board of Directors Luncheon, Madison II Room, Morrison Hotel.

12:30 p.m.—
Coordinated Mechanical Associations — Railway Supply Association, Inc., Ladies' Luncheon, International Ballroom, Conrad Hilton Hotel. (By invitation).

6 p.m.—
American Railway Bridge & Building Association — Roadmasters & Maintenance of Way Association of America—Association of Track & Structure Suppliers: Banquet, Great Hall, Pick-Congress Hotel. (By invitation).

6 p.m.-7 p.m.—
National Association of Shippers Advisory Boards: Reception, Constitution Room, Morrison Hotel.

Wednesday, October 16

ALL DAY—
Accounting Division, AAR: Committee on Passenger Accounts, Ascot House.

Mechanical Division, AAR; Committee meetings, AAR Headquarters Office.

8:30 a.m.-Noon—
The Railway Fuel & Operating Officers Association: Continuation of membership meeting, Room 11, McCormick Place.

8:30 a.m.-1 p.m.—
National Association of Shippers Advisory Boards: Registration, Ballroom Foyer, Morrison Hotel.

9 a.m.-Noon—
The Air Brake Association: Continuation of membership meeting, Room 10, McCormick Place.

9 a.m.-NOON—
National Association of Shippers Advisory Boards: General Session, Ballroom, Morrison Hotel.

9 a.m.-1 p.m.—
Car Department Officers' Association: Continuation of membership meeting, Room 12, McCormick Place.

9 a.m.-NOON—
The Locomotive Maintenance Officers Association: Continuation of membership meeting, Banquet Room, McCormick Place.

9 a.m.-2 p.m.—
National Association of Shippers Advisory Boards: Press Headquarters, Normandy Suite, Morrison Hotel.

9:30 a.m.-NOON—
American Railway Bridge & Building Association: Continuation of membership meeting, Lakeside Room, McCormick Place.

9:30 a.m.-11 a.m.—
Roadmasters & Maintenance of Way Association of America: Continuation of membership meeting, Chicago Room, McCormick Place.

10 a.m.—
Railway Supply Association, Inc.: Annual Meeting, Room 9, McCormick Place.

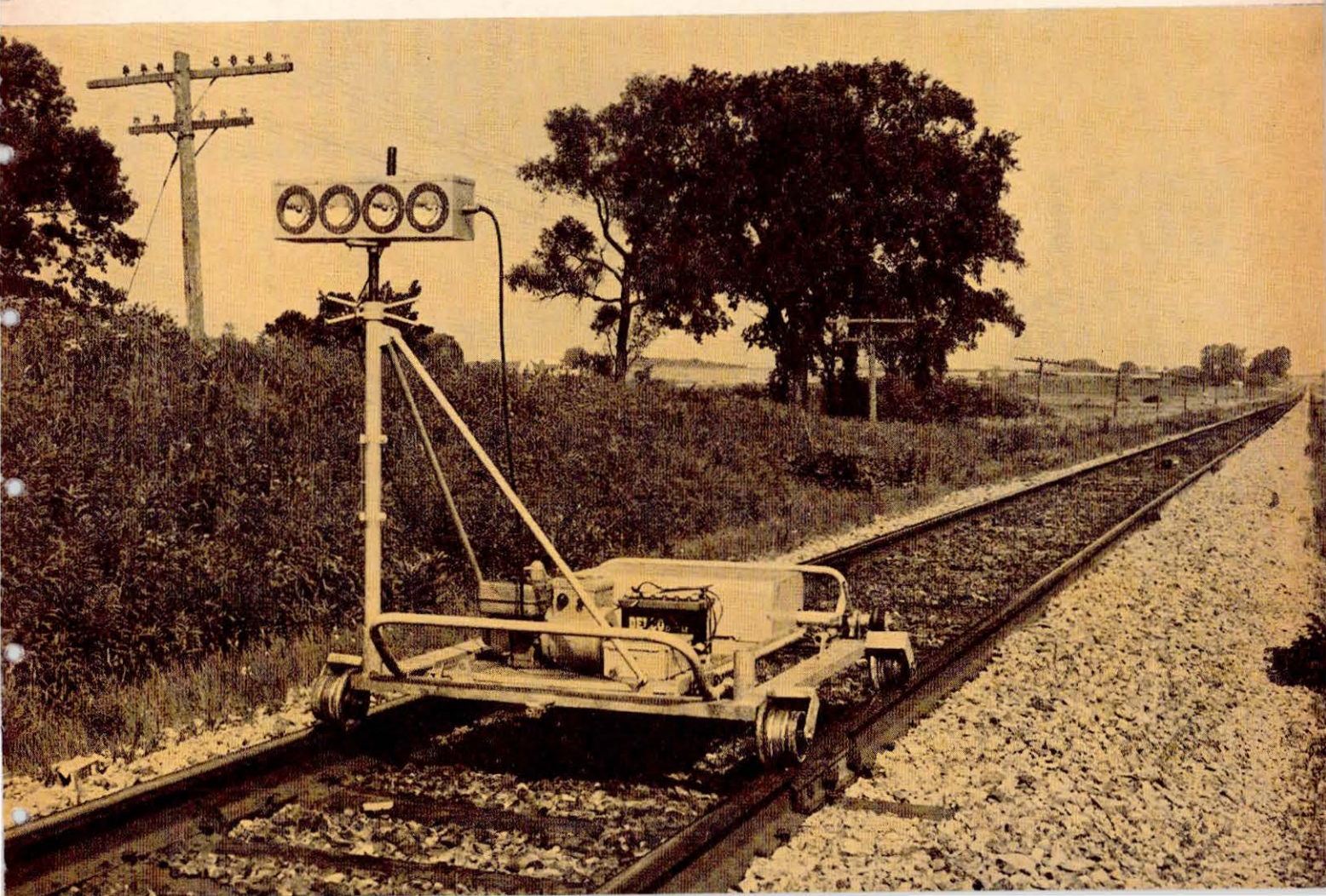
NOON—
National Association of Shippers Advisory Boards: Head Table Reception, Cub Room, Morrison Hotel.

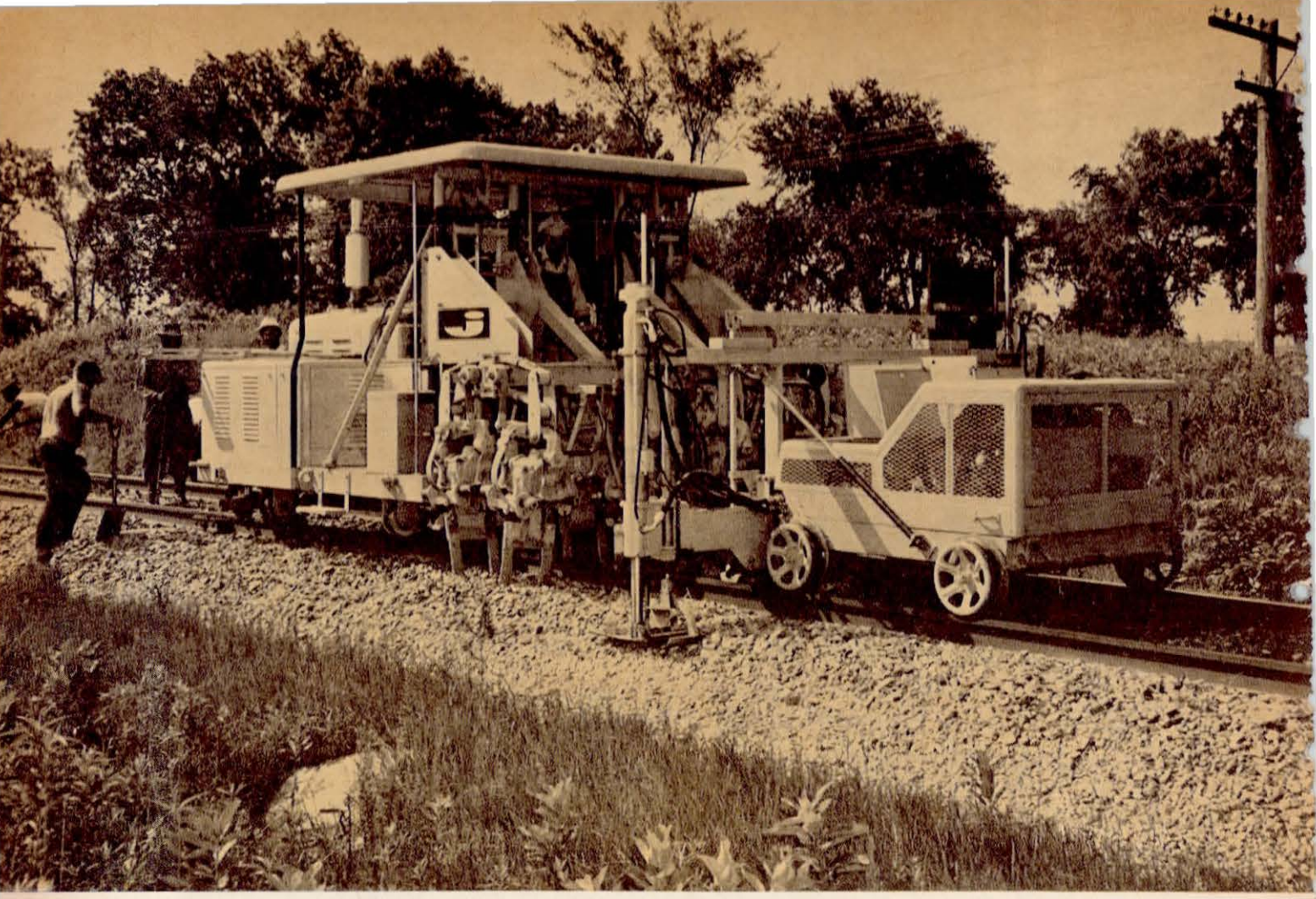
12:30 p.m.—
National Association of Shippers Advisory Boards: Annual Joint Luncheon, Terrace Casino, Morrison Hotel.
Sponsors: The Traffic Club of Chicago
Mid-West Shippers Advisory Board
Cooperating: Womens' Traffic Club of Chicago
Chicago Regional Chapter, I.C.C. Practitioners
Chicago Transportation Club
Chicago Chapter, Delta Nu Alpha
Speaker: D. P. Loomis, president, AAR

2 p.m.-5 p.m.—
Accounting Division, AAR: Committee on Statistics (Subcommittee), Ascot House.

1 p.m.—
American Railway Progress Exposition Closes. Combined Railway Suppliers Exhibit Closes.

THERE'S BIG NEWS BEHIND THIS LIGHT-BUGGY...



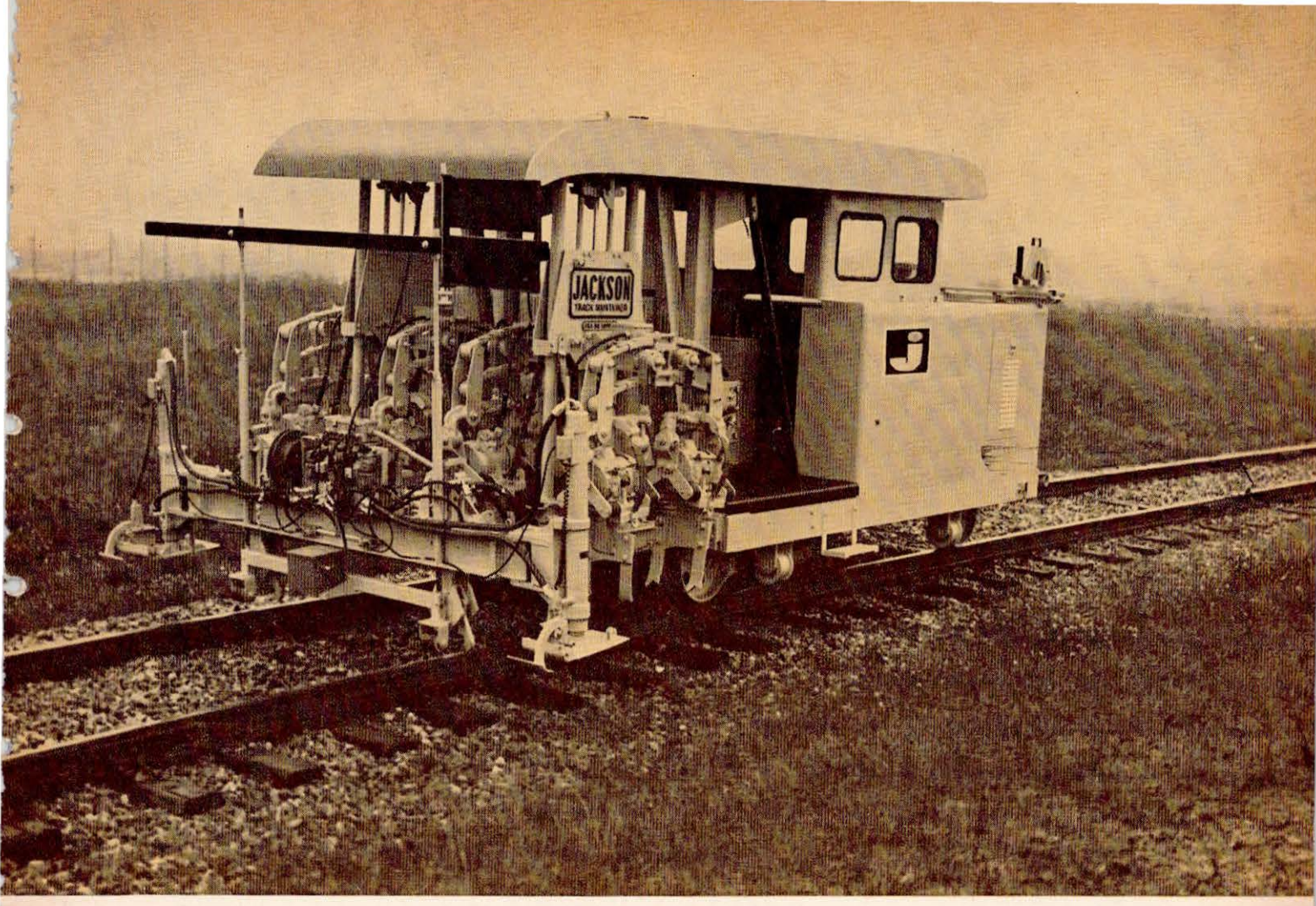


THE JACKSON GandyDancer

...THE MOST ADVANCED AUTOMATED TAMPERS

Here is the equipment you have been waiting for. The newest, most thoroughly engineered, most efficient tampers ever offered. They provide the unmatched quality tamping of the Jackson Maintainer, automated in a manner that fully measures up to Jackson's uncompromising standards of design, engineering, quality control and reliability. Behind them stands the experience and leadership of Jackson Vibrators, Inc. and the unmatched field service you've relied on for nearly a half-century.

Be sure to see these machines at our exhibit, space No. 1405, at the Chicago show. Or, if you do not attend, write for complete descriptive literature. Better still, let us demonstrate on *your* track that this equipment will give you the finest quality track you have ever ridden on . . . at the lowest cost per mile.



THE JACKSON ServoChief

MAINTAIN EXCEPTIONALLY ACCURATE LONGITUDINAL AND CROSS-LEVELS

These automated tampers with their remote, radio-controlled light-buggy, which can be quickly located where desired, permit a system of raising track comparable to the old, but highly effective, "spotboard" method. By locating the light source at the high points, the foreman can readily control the tamping from high to high and thus maintain longitudinal track surface with almost perfect accuracy . . . completely eliminating the possibility of building existing errors back into the track, as may occur when the light source is at a constant, fixed distance in front of the tamping machine. Cross-level is automatically and precisely maintained by a pendulum control system. Super elevation for curves is obtained by merely setting a dial on the control panel.

AUTOMATIC COMPENSATION FOR JACK SETTLING

Each of the hydraulically actuated jacks has a high-volume and low-volume movement. In jacking, high-volume (high speed) operation is used until the raise reaches a point where finer control of the movement is needed, after which a smaller volume of oil is used. Compensation for settling of the jack-foot is thus accurately made. The jacking carriage of the JACKSON GandyDancer is coupled to the tamper by a tubular telescoping bar so that distance from the tamper can be adjusted to best suit track requirements. In the JACKSON ServoChief, the jacking mechanism is an integral part of the machine.

PROGRAMMER

The programmer, actuating the two workheads individually, automatically controls all tamping and jacking operations (optional equipment).

FULLY PROVED

Exhaustive field testing has demonstrated beyond the shadow of a doubt, the ability to put up track of unprecedented quality with unsurpassed speed in all raises from skin lifts to maximum raises to grade-stakes, including following an under-track plow.

THE ELECTRONIC AND JACKING EQUIPMENT EMPLOYED IN THE JACKSON GandyDancer IS READILY ADAPTABLE TO THE 1963 AND SOME EARLIER MODELS OF THE JACKSON TRACK MAINTAINER, AND AVAILABLE TO THEIR USERS.

JACKSON VIBRATORS, INC.

LUDINGTON, MICH.

R3-5

After 4 MILLION
It takes more than detector cars

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CONGRATULATIONS=

CAR 134 ON THE SOUTHERN RAILWAY
RECENTLY COMPLETED SPERRYS 4 MILLIONTH MILE
OF RAIL TESTING SINCE FIRST DETECTOR CAR
BEGAN SERVICE TO RAILROADS 35 YEARS AGO=

ENTIRE ORGANIZATION
TAKES PRIDE IN THIS NOTABLE ACHIEVEMENT=

ARTHUR B. ALLISON
CHIEF EXECUTIVE OFFICER SPERRY RAIL SERVICE =

Operating problems of a testing service are a complex of integrated activities dealing with items that range from intricate electronic systems and traction motors to hot meals and coffee . . . Sperry's tremendous strides in increased testing capabilities and performance are a direct result of the accumulated know-how and technology of the world's largest and most experienced rail testing service organization.

MILES and 35 YEARS to run a testing service.....

Meet the organization behind the Sperry fleet. You may recognize a few former detector car men if you've been in the railroad industry as long as we have.

In addition to those shown in this organization chart are the following fleet and support personnel:

	No. of Employees
Office - Danbury and Field	20
Shop - Danbury, Connecticut	15
Shop - Brooklyn, Illinois	4
Car Crews and Field Service	75

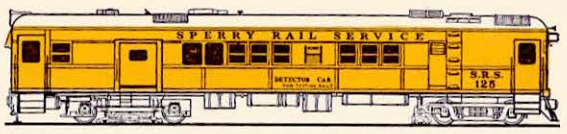
THE FLEET

Induction - Ultrasonic Cars	14
Ultrasonic Cars	14
All Ultrasonic (402)	1
Research & Development	1

HOWE SOUND

SPERRY RAIL SERVICE

DIVISION OF HOWE SOUND COMPANY



General Offices DANBURY, CONN.

District Offices CHICAGO 4, ILLINOIS, 80 E. Jackson Boulevard — ST. LOUIS 1, MISSOURI, 818 Olive Street

BRENCO *crown-taper* ROLLER BEARINGS

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on more than
35 CLASS I
railroads

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BRENCO
BEARINGS

New WELDED RAIL LAYING SYSTEM

more equipment produced by NCG® ... LINK-BELT
teamwork in engineering and manufacture

does DOUBLE DUTY

LAYS DOWN WELDED RAIL...

- **Pulls welded rail strings in pairs out of multiple-tier transport racks.**
- **Pushes two strings of rail into laying position simultaneously.**
- **Equipped to fasten strings together while being layed.**
- **Moves double strings, back and forth, for accurate joining to rail in track.**

PICKS UP JOINTED RAIL...

While other rail-laying equipment rests at the end of the shift, NCG ... LINK-BELT units double their usefulness by:

- **Picking up old joined rail strings in pairs.**
- **Loading into transport racks previously emptied, double strings of jointed rail for welding in original sequence to maintain best riding quality.**
- **Simplifying removal of rail in abandonments and CTC track revisions, with commensurate cost reduction.**

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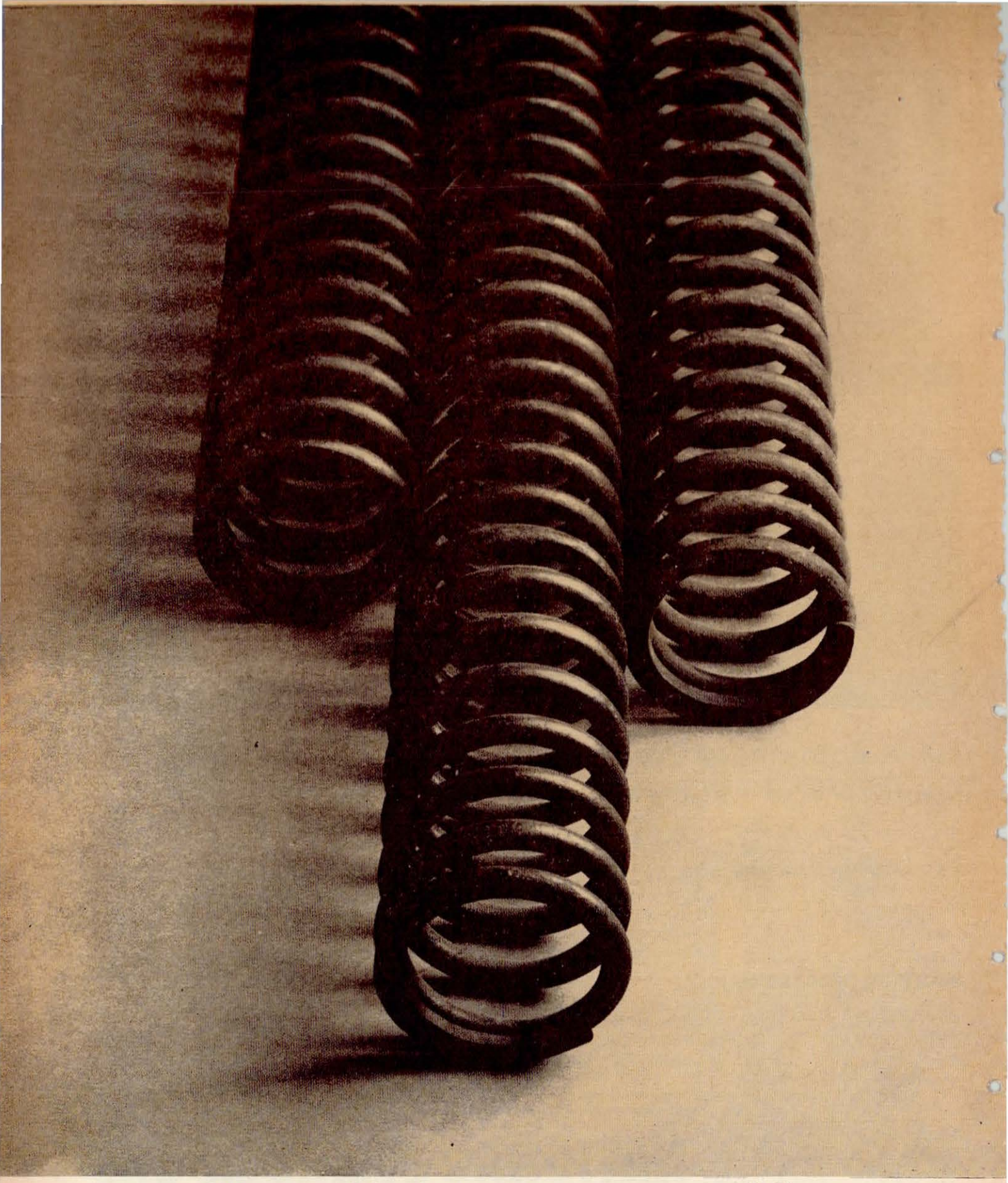
NCG® **NATIONAL CYLINDER GAS**
RAILROAD EQUIPMENT DEPARTMENT
Division of CHEMETRON *Corporation*
840 North Michigan Avenue, Chicago 11, Illinois

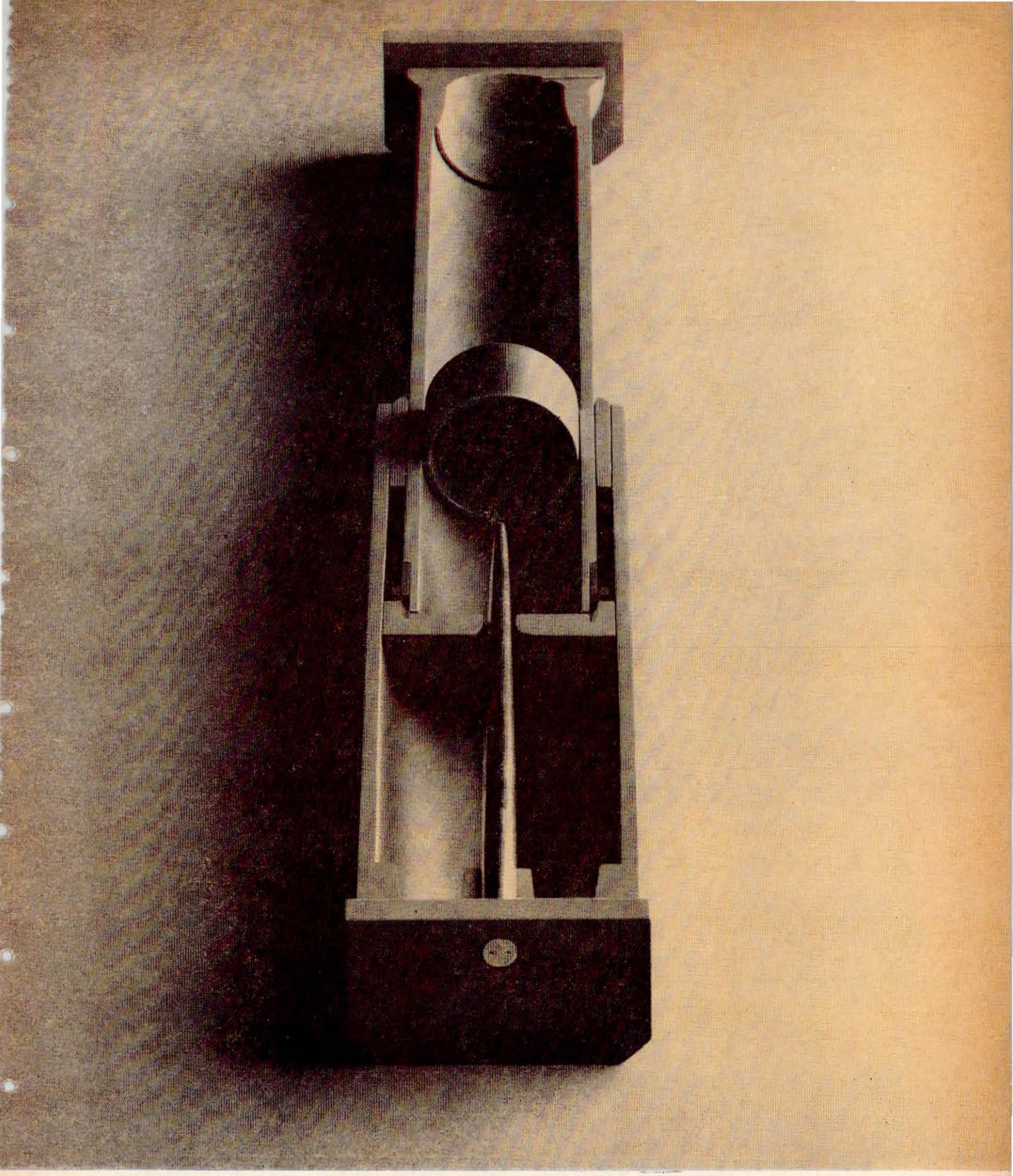


Other cushioning systems may need them...

Springs increase weight of cushioning systems by at least 200 lbs. Because of its advanced design, the ACF Freight-Saver eliminates this and other dead weight. In fact, with ACF Freight-Saver equipped cars, you can save as much as 1500 lbs. in comparison to identical cars equipped with other center-of-the-car sliding sill cushioning units having the same travel.

What is used in place of springs? The ACF Freight-Saver's proven hydraulic-pneumatic cushioning system uses air pressure for return. There are only four moving parts in this dependable design. It serves you trouble-free, impact after impact...year after year. You can count on consistently lower maintenance costs.

Air pressure offers flexibility of return characteristics. As



but look! No springs with the ACF Freight-Saver

friction between fixed and sliding sills is increased, easy adjustments can be made to compensate. Rather than drop the unit and replace the spring, you simply increase the air pressure.

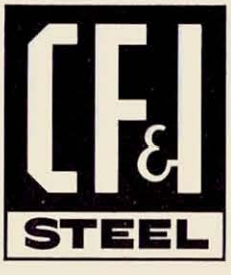
The system offers maximum versatility. ACF Freight-Savers are available with 20 or 30 inches of travel in both directions. They provide reliable protection for an extremely wide range of ladings.

AMERICAN CAR AND FOUNDRY
DIVISION
ACF INDUSTRIES

For the facts on the ACF Freight-Saver contact Director of Marketing, American Car & Foundry Division, ACF Industries, Inc., 750 Third Avenue, New York 17, N. Y.

CF&I Steel and Steel Products...

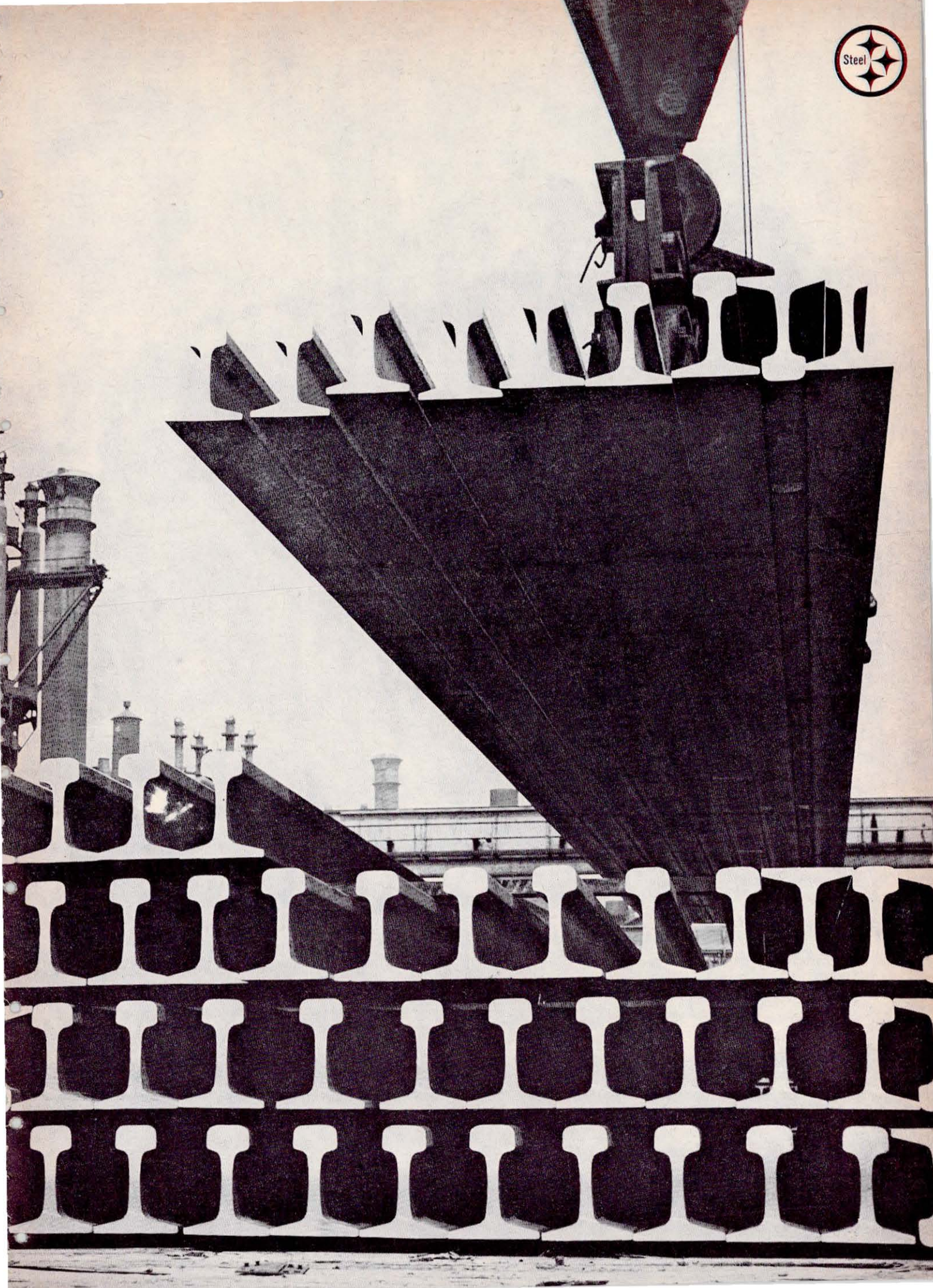
...help run a railroad and keep it running



We've been helping a long time...supplying the industry with everything from nails to rails.

Basic oxygen and open hearth rail and accessories • Hi-Si® Rail • barbed wire • billets and blooms • fence posts • Cinch® Fence Stays • woven wire fence • merchant bars and shapes • structurals • nails and staples • high and low carbon round and flat wire • cold rolled steel • welded wire fabric • wire rope and slings • prestressing strand and wire • tubing • reinforcing bars • UM plate • grader blades • galvanized steel strand.

THE COLORADO FUEL AND IRON CORPORATION
DENVER, COLORADO


Steel

You can now kill brush on a year 'round basis

The key: Dormant Cane Broadcast — Scientists' concepts of chemical brush killing used to be that woody plants could not be effectively controlled with winter-month application. Diamond, however, sponsored research on this unique application method of brush control with the use of six-pound acid equivalent Line Rider formulations. The results speak for themselves:

• Materials needed reduced • Application time in hours per acre reduced • Kill effectiveness increased • Effective spray season lengthened • Hazard of crop damage eliminated • Unsightly brown-out eliminated.

Diamond's experience and specific formulation techniques with dormant cane broadcast can be of help to you. For details on dormant cane broadcast or six-pound Line Rider products, write Diamond Alkali Company, 300 Union Commerce Building, Cleveland, Ohio 44114.

Diamond Chemicals

you
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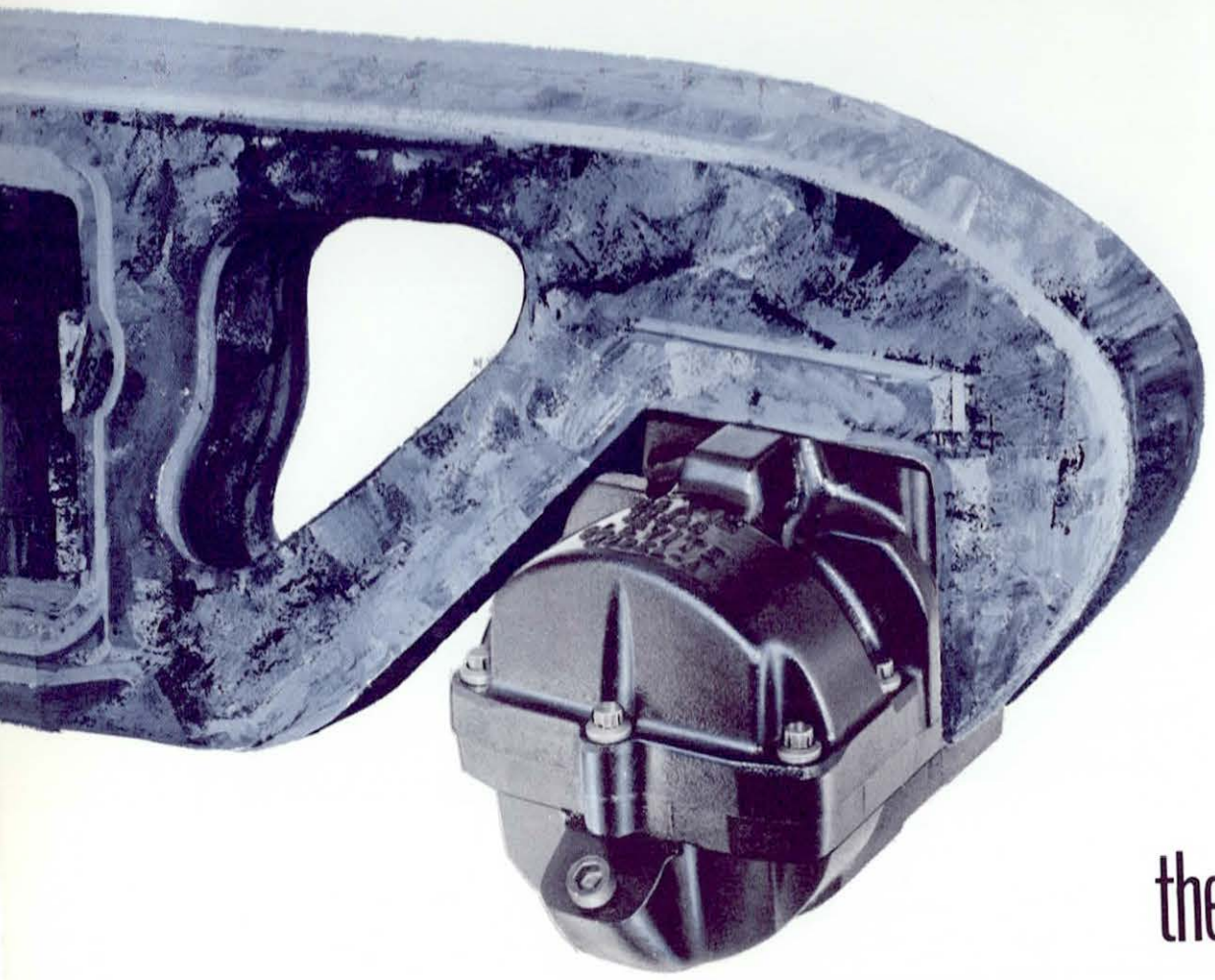
fill
this
space more
profitably



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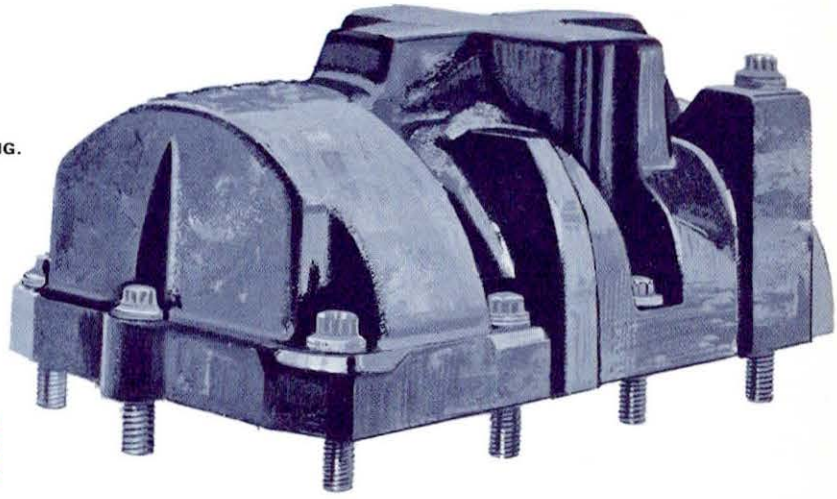

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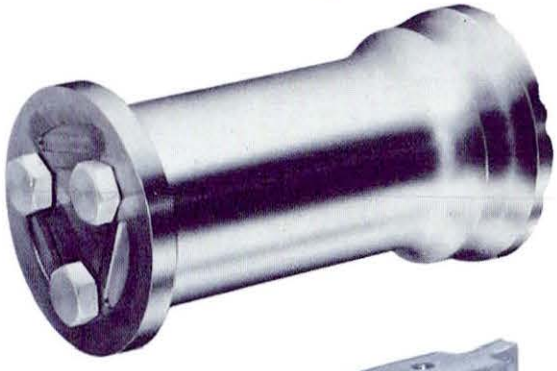

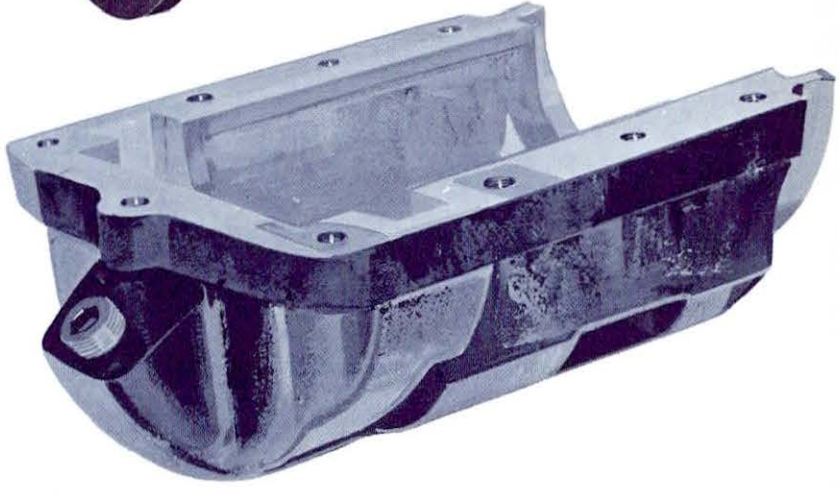

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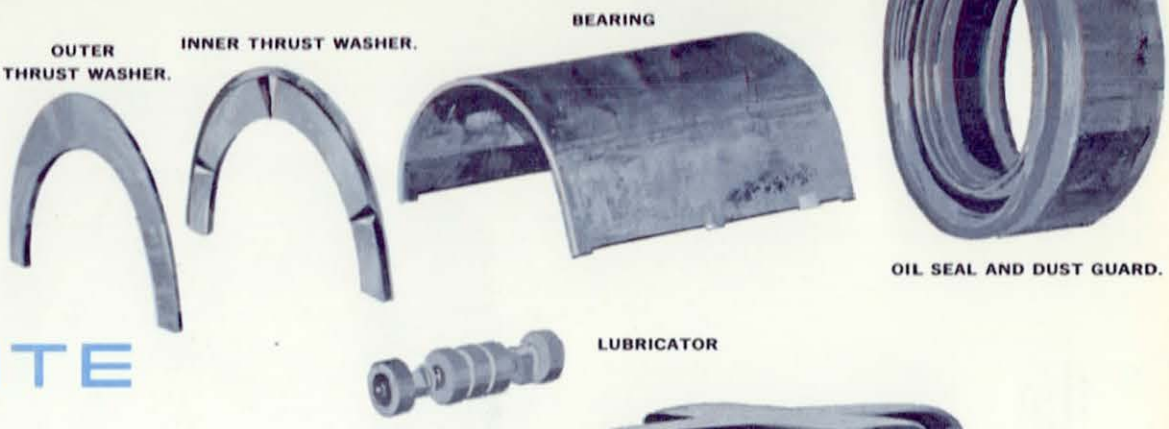

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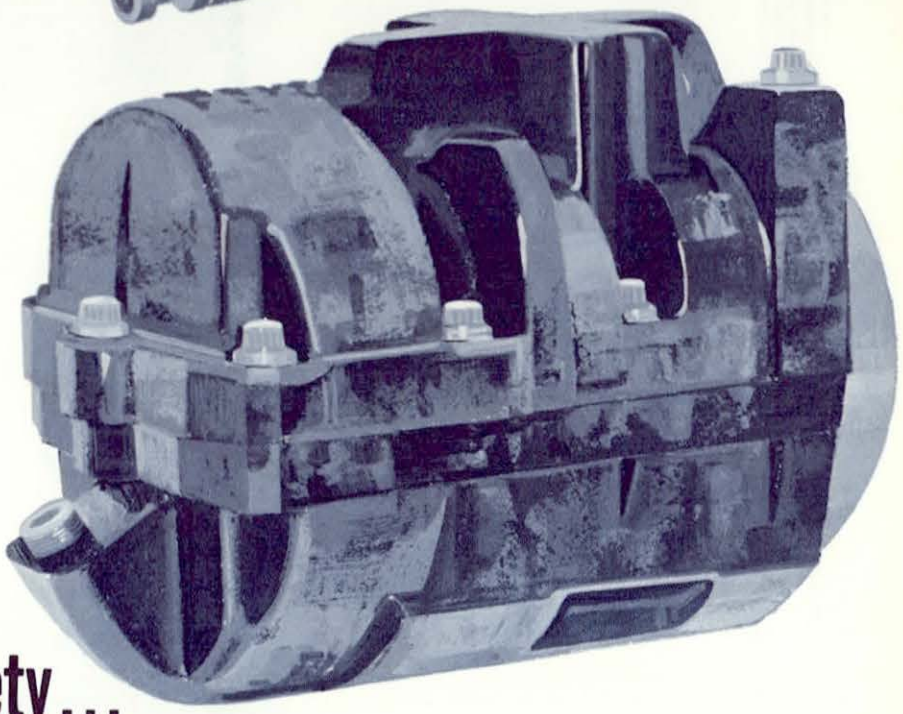

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ACCESS
DISCHARGE
PROTECTION
CAPACITY
RELIABILITY

New freight cars score five ways

Tailored to the specialized needs of shippers, new rolling stock also meets carrier requirements for maximum utility.

By F. N. Houser, Jr.
Associate Editor

Marketability and utility characterize the freight-carrying equipment being displayed at the American Railway Progress Exposition (ARPE). These freight cars, trailers and containers are capable not only of serving their owners as full-time, low-cost producers of transportation, but, simultaneously, are marketable because they fill the specialized needs of today's buyers of transportation. Maximum marketability and maximum utility are no longer at cross purposes; ARPE displays emphasize this fact. Attributes of equipment which make this possible are: access, discharge, protection, capacity, reliability. Every unit incorporates all of these to a degree; some incorporate all five to a remarkable extent.

● **Help the customer.** Today the primary question should be not "What can this car do for the railroads?" but "What can this car do for the railroads' customers?" By initially resolving the second question, the railroad industry is providing what ultimately will be the best long-term answer to the first. As evidenced by the large number of trailers and containers on display, it is not always a "car" that will do today's transportation job best—and railroads have faced up to this fact.

It was not always so. Utility, even if not so expressed, was the trademark of the freight cars displayed just a decade ago at an AAR-sponsored exhibition in Atlantic City, N.J. Then, emphasis was on what equipment could do for a railroad—and its customers frequently came off in a poor second place.

Subsequent developments—within and without the railroad industry—have rendered technologically obsolete practically every unit which, in 1953, was displayed as "the latest in rolling stock." Also rendered obsolete in this same decade have been the railroads' traditional concepts of their freight-moving functions. Chicago in 1963 is not only remote from 1953's Atlantic City in distance and time, its displays also represent major departures in the basic philosophy behind the acquisition and operation of freight equipment.

● **Not just freight cars.** Probably most significant in 1963 is that it is "freight equipment," not just "freight cars," being displayed. Prominent in

Today it's 'freight equipment'—not just 'cars'

rail freight transportation in 1963 are trailers and containers which are making it possible to handle small package shipments without incurring traditional LCL deficits and, at the same time, extending or continuing railroad service to areas which could not be served economically in any other way. Rail and highway are being made to fulfill those functions each is best able to do.

Acceptance of the one-way or single-purpose car, useful for revenue hauls in only one direction, is another salient feature of 1963 equipment displays. The traditional railroad concept of general-service cars capable of carrying revenue freight in both directions has disappeared in the traffic scramble of the early Sixties. No longer are new car programs predicated on general service equipment; investment in today's cars makes high utilization such a necessity that railroads can establish procedures for insuring high-speed loaded moves and expedited empty back hauls.

It is only within the past five years that these cars have come to be considered as anything other than necessary evils. Today, many progressive railroads justifiably use car utilization as a yardstick of comparison. It is almost always true that a special car confined to one-way hauls—by virtue of being continually in service with profitable loads—can produce a far greater return on investment than a two-way car which frequently stands idle while return loads are being sought.

● **Biggest earners.** Single-purpose cars, formerly anathema to all railroaders, have proved to be today's greatest revenue producers. The piggyback cars of one railroad, representing ½% of its freight-car ownership, are today responsible for 10% of its freight revenues. In this case, of course, the specialized nature of the equipment does not preclude two-way hauls.

Ingenuity and engineering have shown that it need not be so in the case of even more highly specialized equipment. By providing wider doorways and reinforcing floors on the refrigerator cars built in recent years, it has been possible to place them in merchandise service on return trips because fork lifts can be used to load them. Many of the refrigerated trailers used for perishable piggybacking are now being utilized for merchandising backhauls.

New concepts and new equipment designs of the past five years have served to bring technological obsolescence to much of the U.S. car fleet, even though many of the cars have substantial service life left in them. How did it happen?

Following World War II, U.S. and Canadian railroads were badly in need of equipment to replace their depression-depleted and war-worn freight-car fleets. The cars that were then ordered in large numbers were solely replacements—not new in a technological sense. Forty-foot box cars were replaced with comparable 40-foot box cars; 50-ton hoppers were supplanted, or supplemented, by new 50-ton hoppers. This replacement-in-kind continued throughout the first post-war decade, reaching its peak in 1955, when 156,902 cars were ordered. After this, orders dropped off to a 50,000-cars-per-year average.

● **Standardized designs.** Carbuilders met the immediate post-war challenge by adopting standardized car designs, ceasing to be primarily contractors building to railroad specifications, as they had been. Instead, they became product manufacturers. This standardization was important not only to the railroads, which could purchase standard cars at lower cost, but also to carbuilders, for whom mechanization and automation meant a way to meet rising labor and material costs. It was products of that kind of thinking which predominated at the 1953 AAR Atlantic City exhibition. Carbuilders had become product manufacturers, but had only brought mass production techniques to the building of conventional, general service cars.

There was little innovation. Water ice was still the accepted method for providing railroad car refrigeration; covered hoppers were generally referred to as "cement cars" because that was what practically all of them hauled; piggybacking was a "blue sky" project of a handful of maverick railroads; and 50-ton open-top hopper cars were being built in substantial numbers to move a retail coal traffic which had been declining for years.

● **Sudden shift.** After the almost 157,000-car year of 1955, railroads found themselves with their car fleets largely restored but suddenly facing a new situation. Their customers—freight shippers and receivers—confronted also with rising labor and material costs, were seeking new methods to remain competitive. A major field for such cost reduction proved to be distribution. It was not that freight customers had never paid attention to transportation costs and equipment. It was at this time, however, that factors other than price and time in transit came to be considered in computing shipping costs.

Packaging, inventory levels, warehousing costs, loading and unloading costs, materials handling systems, and condition of load on arrival all came to be figured in the total costs of producing and moving a product to a customer. The American Management Association has estimated that total expenditures on distribution represent the third largest category of costs involved in doing business today. This is the era of "short-order" or low-inventory economy. It represents new challenges and new opportunities to all transportation operators.

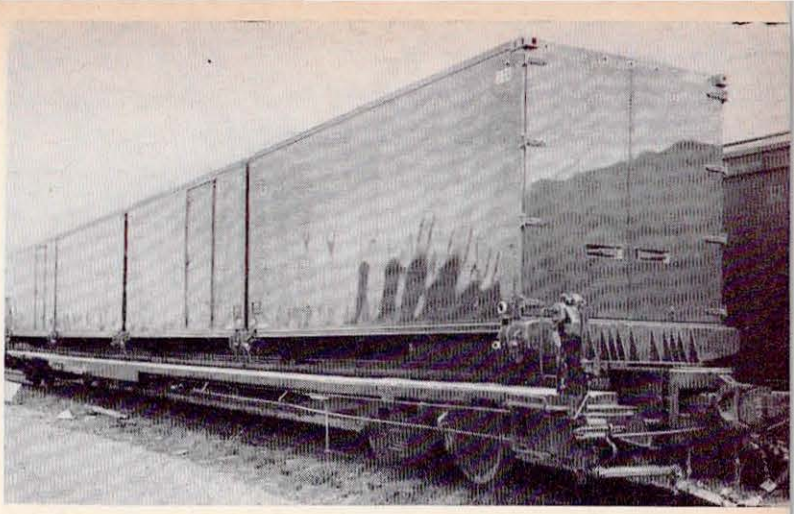
● **Specialized equipment.** The shipper, in recent years, has come to take the attitude that "to maximize my profits, minimize my costs, and remain competitive, I must have a particular type of rail equipment which will be moved at a specific rate. If I don't get it, I will have to find another method for transporting my product."

Put in such life-or-death terms, railroads did react. Customer-oriented cars have become an accepted feature of today's railroading; a marketing concept has an essential role in most of today's equipment planning. This is true of carbuilders as well as of railroads.

"Our emphasis now," says J. W. Scallan, Pullman-Standard president, "is on materials handling concepts rather than contract freight-car building. An effect of changing conditions has been the necessity for our Marketing Department to begin making direct contact with industry. We have completely reorganized our sales department during the past four years into a marketing department. Today, we have a marketing group at work in 14 basic industries determining the need for specialized types of freight cars.

"Neither Pullman-Standard nor any other reputable carbuilder is calling on shippers to promote the sale of uneconomic equipment to railroads for our short-term gain. Carbuilders' contacts with industry are sometimes misunderstood, but I think it is clear that we rely on a healthy railroad industry for our long-term profit stability. Putting railroads in a worse position to compete by forcing the sale of non-essential equipment through shipper pressure just doesn't make good sense to us, and we don't do it."

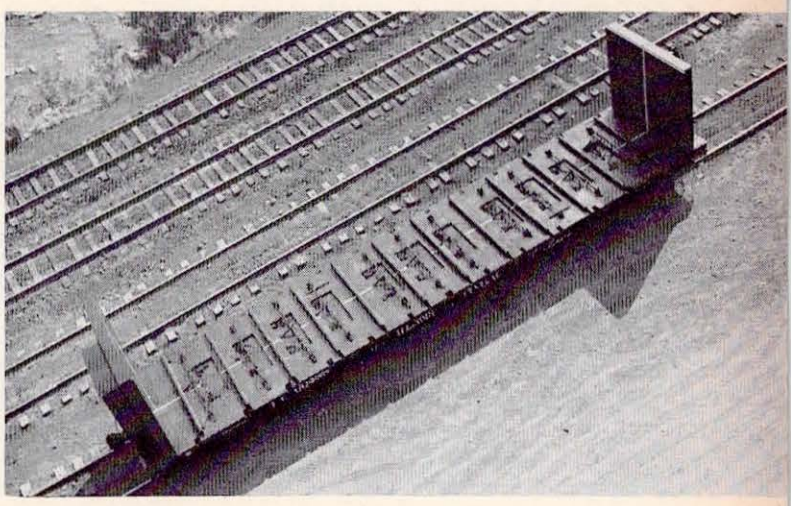
● **Mixed blessing.** Opening up such new markets while ending traditional railroad purchasing practices has not been an unmitigated blessing to carbuilders. It has meant that railroads have shifted from mass purchases to the buying of small lots of highly specialized cars. This has meant that the large builders have had to gear



Access—ready loading—can be a feature of bulk and piggyback cars.

Trough-roof covered hopper, developed by Pullman-Standard, can make loading of bulk materials an almost continuous process. Such methods are of prime shipper interest.

Container loading and intermodal transfer have been the goals of recent piggyback development; General American car is loaded with various sizes of containers.



Discharge—easy unloading—is important for efficient materials handling.

Unimpeded flow of materials to outlets, a characteristic of ACF Center Flow car, grows in importance as additional materials are moved in bulk rather than being packaged.

Unloading with fork lifts or overhead cranes, possible with this Bethlehem bulkhead car, has been an important consideration for many cars designed in recent years.

their mass-production plants to the smaller customized orders which now move through them, drastically affecting their production facilities and engineering. It has frequently put the smaller carbuilders in a much more competitive position.

One of the railroad pacesetters in adopting the new marketing concept for rolling stock has been the Southern. Larger, lighter and highly specialized freight cars are putting that railroad "on the right track to increasing its competitiveness, to increasing its usefulness to the public, and to having a larger and more profitable participation in the transportation business," D. W. Brosnan, Southern president, has noted.

"We are interested in the full cost of transportation to the shipper, including those costs he must pay beyond the rail rate," Mr. Brosnan points out. "This might show up in crating and bracing, or in damage to his product . . . If he incurs costs by rail and not by truck, rail haul is vulnerable.

"The designing of transportation services and supporting cars is handled by people in our pricing group. They're split into teams—one industrial engineer and one operating or transportation department man of the background of a division superintendent. They constitute a team and have access to a design group from the mechanical department, a costing group from transportation research, and a rate group from pricing."

● **Tailored to need.** The basic assignment is to tailor rail transport to shippers' requirements. All details about a shipper's transport needs are obtained —how he loads and unloads, his general distribution pattern, the frequency of shipments, the size of shipment, and what kind of crating and bracing is used. "These studies are used to determine the kind of car needed to handle the product," Mr. Brosnan says. "If it requires protection from damage, it must be determined what kind of protection is needed. If heavy loading is involved, we must determine how much can be loaded in a car and how many receivers can take that quantity at one time."

Criterion in determining whether a special car design is needed is its profitability. "Equipment is a part of pricing even though it never had such a place in tradition-bound rate making."

The effects of these new marketing concepts are immediately apparent on visiting the American Railway Progress Exposition. Look at the freight cars in terms of what they will do for railroad customers, remembering that those which will do the most for customers will ultimately do the most for those who own and operate them and for those who build and sell them.

Five qualities are incorporated in

Effect of new marketing concepts is immediately

varying degrees in every car on exhibit. Some incorporate all five to a remarkable extent. The qualities are:

- Access
- Discharge
- Protection
- Capacity
- Reliability

Access, or the ability to load easily, is evident in the box cars, covered hoppers, bulkhead flats, refrigerator cars and piggyback cars on display. It does not mean the same thing in each case. Note the doorways on the box and refrigerator cars. They are much wider than those on similar cars which were exhibited at Atlantic City in 1953. They have made it possible to use lift trucks for loading operations—and floors inside have been strengthened so that these trucks can handle heavy loads as they move in and out of the cars.

Bulkhead flats, first introduced for gypsum-board shipments, have come to be used for such diversified ladings as packaged lumber, bricks, poles and even machinery. Here, again, materials-handling equipment is being utilized to speed loading. Bulkheads have proved to be a boon for the railroads, eliminating the time-consuming and shipment delaying process of aligning shifted ladings such as poles or lumber.

The trough-hatch and panel roof covered hoppers represent major innovations. They make possible continuous loading from end to end of a car without the need for placing filling spouts in a series of roof hatches. Either could ultimately make possible the loading of trains without stopping —something of increasing interest to shippers of bulk materials and to railroads handling such materials.

• **New concept.** Covered hoppers themselves have brought a completely new concept to the transportation of many bulk materials. They have meant an end to bag and barrel shipment of large volumes of materials such as flour, sugar, grains and chemicals. This has not meant just an easier method for performing traditional loading operations; instead, these cars have made possible the introduction of completely new materials-handling systems.

Piggyback cars have undergone continuous refinement to simplify their loading. Crux of today's problem is economical "intermodal" transfer—i.e., rail to highway, rail to ship, and the reverse.

Discharge, the ability to unload easily, is evident in practically all cars but is of prime importance in those designed for handling bulk materials. For cars loaded by lift trucks, the discharging procedure normally represents an inverse of the loading process. Not so with bulk materials cars. Here the number, size and location of outlets, and the unloading methods which may be used, are of primary importance. Even body configuration and materials are important factors.

Covered hoppers on display probably represent the most diversified approaches to these problems. Pressure or vacuum unloading systems may be utilized with many of these cars—systems representing great improvement over gravity unloading, a procedure which can be extremely slow in the case of materials which compact in transit. Body interiors are designed and constructed to present a minimum of obstruction to the flow of the powdered, granular and pelletized materials which move in these cars. Complete elimination of the center sill has been a method used by several carbuilders for assuring unimpeded movement of ladings to the outlets.

Unloading open-tops

Discharging the contents of open-top cars has also been the subject of numerous development programs. In these cars, materials which need no weather protection en route must be emptied rapidly. Larger openings, new door arrangements, and new body materials all have functions in this.

• **Major economy.** In incorporating optimum access and discharge characteristics in today's cars, shippers and receivers are not the sole beneficiaries. Savings are not represented by customers' manpower and time savings alone. Cars which can be loaded and unloaded rapidly can be a source of major economy to railroads. Consider the normal four-step switching procedures involved in a typical freight movement:

1. Provide an empty car;
2. Pick up of car following loading;
3. Delivery of loaded car at destination;
4. Recovery of empty following unloading.

Maximum access characteristics in such a car could mean that the switching operation which brings an empty car to a shipper's facility would remain while the car was loaded, assuring not only rapid movement for the customer but maximum utilization for the car owner. At destination, maximizing of discharge characteristics would mean that the delivering switcher movement could remain and even assist in unloadng the car—again increasing utilization.

• **Unit trains.** It is a refinement of this procedure that is proposed for the unit (or integral) trains which railroads are planning. Here the access and discharge characteristics would be such that loading and unloading could be done on a large-volume basis without significant delay or, in some cases, even stopping of an entire coupled train. Increased equipment utilization, however achieved, immediately means fewer cars and lower investment for handling a given tonnage.

Protection, or provision of the optimum environment for materials or products in transit, can mean a multitude of things. It can mean cushion underframes on cars which move manufactured products; it can mean container covers or closed bodies for handling bulk materials; it can mean temperature and humidity control for perishables, chemicals and similar products.

Over 75% of the box cars built last year had cushion underframes. Several carbuilders have had orders for no other type of box car in 1963. It is significant to note that hydraulic cushioning is now being applied to other types of cars. Piggyback cars, general-service flat cars and refrigerator cars are now so equipped.

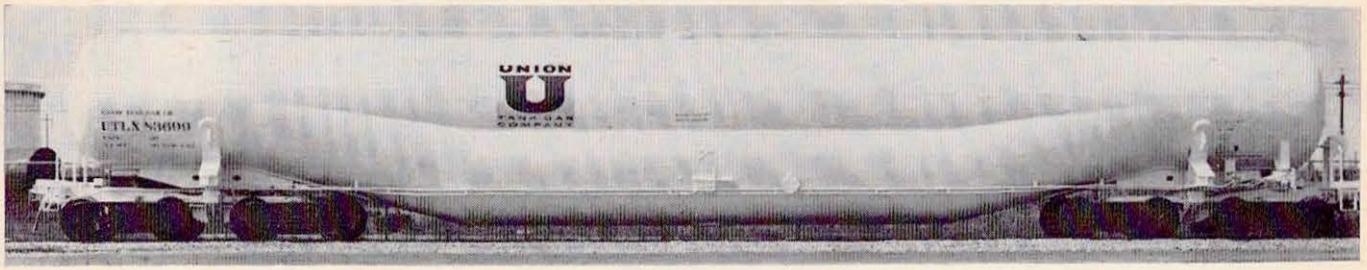
While cushioning was available ten years ago and such cars were exhibited at Atlantic City, hydraulic systems and long travel had not yet been introduced. Systems offered at that time were adequate for protecting only the car structure, but not the lading. Here again, is evidence of the two-fold benefit to be derived from many of today's equipment designs. By adopting long-travel hydraulic cushioning, railroads have reduced damage to their customer's freight to a remarkable degree. At the same time, their equipment can be built less substantially, since it no longer is called upon to absorb the unmodulated, high-energy impacts developed in switching and train operations.

Cushioning has also been a vital factor in development of container cars and multi-level automobile rack cars.

Bulkheads and chain binders on flat cars are providing an equivalent degree of protection to many ladings which were formerly staked and banded manually to prevent damage or shifting en route.

• **Cost cutters.** Protection for bulk materials, made possible by covered hopper cars, has eliminated much expensive individual packaging, and subsequent expensive handling of these packages, whether they are bags, barrels or cartons. Covers of various types for gondola cars have saved much of

apparent in exhibits at Chicago



High capacity, epitomized in this 50,000-gallon tank car, is a characteristic of most new freight equipment.

the semi-finished steel traffic which was being lost because of the expensive waterproof packaging required in open-top cars.

Substantial quantities of steel are also moving in insulated box cars, again devoid of any protection. When shipped in conventional box cars, condensation is a problem which can again be solved only with waterproof packaging. The insulated car has gained great popularity in recent years. Many of the products which formerly moved in uniced refrigerator cars — canned goods, tin plate and similar products —are now moved in insulated boxes.

The three largest tank-car leasing organizations now offer cars with engine-driven heating equipment which can maintain liquid ladings at preset temperatures during transit. In the case of pitch—first product moved by prototype cars of all of these organizations —heating en route means unloading time reduced from 48 hours in conventional cars which are connected to steam at destination, to under 1 hour. Chemicals, vegetable oils and other liquids which are now being shipped in such cars can not only be unloaded more expeditiously, their quality may be enhanced because of the uniform temperatures during shipping.

Capacity, high weight-carrying ability and high cube, characterizes all types of cars—whether they are for handling bulk commodities or manufactured products. The 85-, 90- and 100-ton open-top and covered hopper cars are the standard types ordered today. In 1962 there were more 100-ton than 70-ton open-top hoppers ordered. In the first three quarters of 1963 less than 20% of almost 6,000 open-top hoppers ordered for coal and ore service were of 70-ton capacity; the remainder were all of larger sizes. Covered hoppers mirror this same upswing in weight-carrying ability. Also characteristic of today's covered hoppers, which have come a long way from their "cement car" days, is the high cube incorporated in designs which are to carry low-density materials.

• **Bigger and bigger.** Over the past few years tank-car capacities have increased at an even faster rate than has been the case for cars to move dry bulk materials. From a top of about 16,000 gallons a decade ago, maximum tank-car capacity has today grown to 50,000 gallons. While the 50,000-gallon car is still considered experimental, announcement has recently been made of 33,000- and 38,500-gallon models to be placed in regular interchange service.

100-ton boxes

In 1963, orders for 70-ton box and refrigerator cars—and even 100-ton box cars—are accepted as commonplace. Just a year ago the initial order for a substantial number of 100-ton box cars received wide publicity. In addition to increased weight-carrying ability, many of today's box cars incorporate high cubic capacity—up to 10,000 cubic feet in some recent 85-foot cars. This is a spectacular increase from the 3,500 to 4,000 cubic feet in a conventional 40-foot car. Most box-car development work in recent months has been concentrated on 100-ton units for the automobile industry—60-foot, 6,000-cubic-foot models for transporting high-density auto components such as castings and forgings; and 85-foot, 10,000-cubic-foot designs for low density parts such as body stampings.

• **Profitable, too.** Interest in cube is relatively new to railway thinking and, as events have proved, very profitable. The benefits of utilizing, for revenue purposes, all the volume which can be incorporated in a car within railway line clearances can be best measured in the success of the tri-level automobile car. In less than four years since they were first introduced, these cars have brought back to the rails a substantial portion of the movements of new, assembled automobiles—traffic which had been diverted almost completely to the highways.

Key to this success has been the low unit transportation costs which could be attained when 12 conventional, or 15 compact, automobiles are moved on a single railway car. The benefits of full utilization of cube are not peculiar to automobile transportation — and railways are showing increasing interest in the volumetric, as well as the weight-carrying, potentials of cars.

This same thing is evident in the containers and trailers on display. Highway operators—and marine operators before them—have long been conscious of the beneficial effects on operating costs when both volume and weight are considered simultaneously and utilized completely. A maxim of marine operators, which they strive to fulfill, is that unit costs are lowest when a ship is both "full and low in the water." If it is low in the water without being completely filled (utilizing weight-carrying capacity only), or full without being low in the water (utilizing cubic capacity only), unit costs will not be minimized. Many of the freight cars at the American Railway Progress Exposition will illustrate the fact that this same philosophy is now pervading the railroad industry.

In producing these larger cars, new emphasis is placed on theoretical design techniques, on laboratory and road research, on acceptance of new materials, and on development of advanced fabricating and assembly methods. Materials research is becoming increasingly important as carbuilders strive to meet railroad and shipper demands for lower weight and greater serviceability. Lightness, high strength, and corrosion and abrasion resistance are all important qualities in today's car materials.

Reliability, the characteristic which allows a car to serve as a full-time revenue producer with little or no attention, is vital in the high-speed operation of today's freight trains. It is a function of over-all design, materials, and selection of components. Acceptance of new car construction materials has been matched by railroad willingness to adopt improved freight-car parts which can operate with a minimum of inspection, servicing and maintenance.

Union Pacific's 8,500-hp gas-turbine locomotive led the big-power parade.

Big trains, big diesels

All three builders offer big diesel-electrics and introduce new models in the all-purpose 2,000-hp to 2,750-hp class. New power will reduce number of units, improve performance.

By C. L. Combes
Mechanical Editor

Packing more horsepower, the new diesel-electrics are changing railroad thinking in both numbers and letters.

"Three will do the work of four." That's what the locomotive builders were saying about the 1961 and 1962 models. Now it's "two will do the work of five" and "three will replace ten" as the American Railway Progress Exposition gives railroad men their first opportunity to inspect the first 5,000-hp diesel-electrics built for American railroads.

• **Eight new models.** Variety, as well as horsepower, brightens the locomotive picture. Not since 1947 when large dieselization programs were getting under way have so many new models been introduced in a single year. For wheel arrangements under the eight models announced this year it's necessary to brush up on the alphabet nomenclature system with the B-B, C-C, D-D and B-B-B-B trucks under the new power. Using B to denote a two-axle two-motor truck, C a three-axle, three-motor truck and D a four-axle, four-motor truck, the letters tell a story. All axles are driving axles. There is no need for idler axles to stay within acceptable load limits. Axles have been added to deliver the high engine output as well as to carry the heavier units. For the same engine horsepower axles have also been added to improve traction characteristics.

There are reasons for the sudden flurry of new diesel-electrics. It's a happy coincidence that this stepped-up activity takes place in a year when the biggest railroad exposition is scheduled and five of the eight new models can be exhibited. While the exhibits will stimulate interest and probably generate some orders, the basic reasons for the new equipment are:

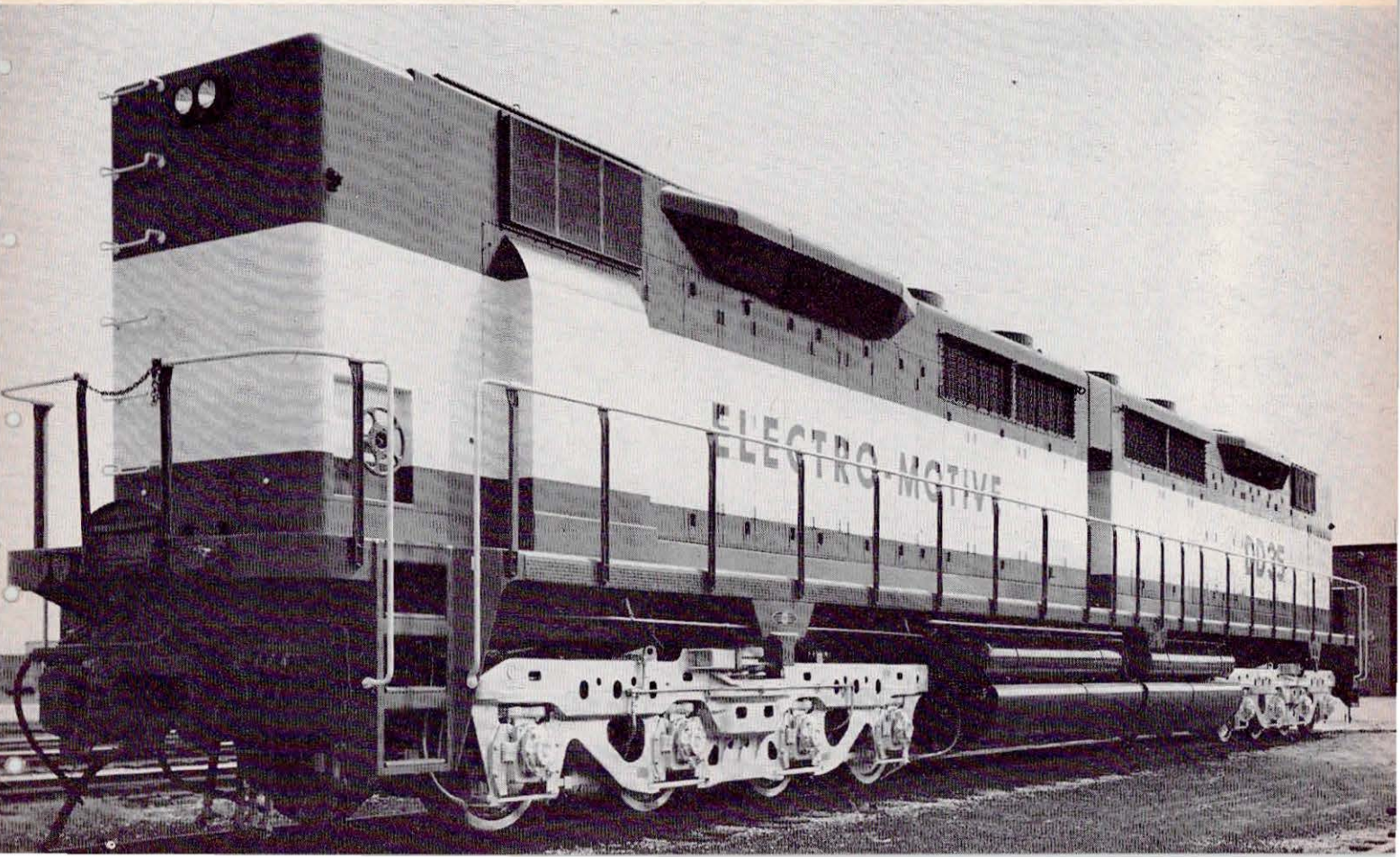
- The big replacement market.
- To reduce number of units.
- To satisfy varying requirements.
- To take advantage of new developments.
- Competition between builders.

The biggest part of the diesel fleet is over ten years old. Probably William S. Miller, Alco president, made as good an estimate of the market as any last Jan. 29 when he announced the new Century series. He said, "From 5,000 to 6,000 units will require replacement within the next five years."

• **Stepped-up replacement.** To average over 1,000 new units a year the railroads will have to step up their replacement programs. After acquiring only 256 new units in 1961, an all-time low since 1945, there was an upward surge to 596 new units in 1962. It is probable that this figure will be exceeded this year but doubtful that

General Electric's 5,000-hp U50 is one of three ordered by Union Pacific for high-speed freight operations.

Electro-Motive's DD-35 booster unit, a unit-reducing block of 5,000 horsepower for fast-freight schedules.



the thousand mark will be reached. The many new models could very well have slowed buying this year as the railroads waited to see what's "in the store" before making a decision on what kind and how many to acquire.

The big diesels are spectacular. They will also sharply reduce the number of units required to pull mainline freight trains. When the first of the two-engine designs, the DD-35, was introduced by General Motors on May 20, Electro-Motive Division's general manager, R. L. Terrell noted, "The cabless DD-35 brings a new dimension to the unit principle in motive power, pioneered by EMD in the mid-thirties. It operates solely as a booster unit to provide a big unit-reducing block of 5,000 horsepower to meet high horsepower requirements of railroads operating increasingly heavier trains at high speeds. For example, one DD-35 coupled to one GP-35 would replace five 1,500-hp freight units."

• **Long haul, high speed.** Union Pacific's president, A. E. Stoddard, had the same reason for ordering three Alco 5,500-hp Century 855 models and three General Electric 5,000-hp U-50 units, announced June 13. He said studies of the road's long-haul, high-speed freight operations have shown a need for locomotives of 15,000 horsepower and higher for on-time handling of trains on today's fast schedules. Three of the Alco Century 855's could replace 11 and three GE U50s could replace 10 of older 1,500-hp units.

The Alco Century 855 locomotives will include two A cab-control units and one B booster unit; the GE U50's will all be A units. The A units can operate singly or can m-u with each other or booster units, unlike the EMD DD-35 booster unit that must be coupled to an A unit for road operation.

The 1,800-hp to 2,500-hp diesel-electrics will continue to be "the backbone of most railroad motive power fleets," as Mr. Terrell said in discussing EMD's 2,500-horsepower GP-35. But it is certain that many roads, in addition to the UP, have requirements that can take advantage of the "unit-reducing blocks" of 5,000 and more horsepower. They "will permit reduced maintenance costs resulting from operating a lesser number of diesel units" as the AAR Mechanical Division Locomotive Committee noted in its 1963 report.

• **Fewer units.** The higher-horsepower units will result in fewer units in the diesel fleet inventory. Already, the more powerful units introduced in the past few years have made this evident. U.S. totals went from 27,744 units at the beginning of 1959 to a high of 28,369 at the start of 1961 and then started a decline to 28,240 on Jan. 1, 1962, and 28,170 units the first of this year. At the same time average tractive effort per unit increased from 60,739 pounds in 1959 to 61,489 pounds on Jan. 1, 1963.

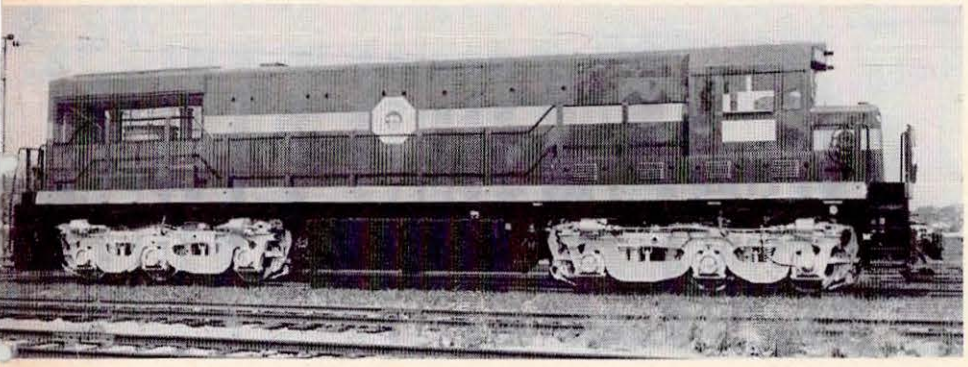
The downward trend will be slow at first and will proceed at a more rapid rate only after a substantial number of the 2,500- and 5,000-hp class diesels are in service. Horsepower alone is not the only factor to influence numbers. The 1961 and 1962 models have demonstrated their ability to roll up high mileage, with some units averaging 20,000 miles per month. Utilization like this is bound to help decrease the number of units needed to do the work. There is no reason to believe that the 1963 models will be any less capable in this respect than their predecessors.

• **Greater reliability.** On the contrary, the research and development work that has gone into the new machines will undoubtedly make them more reliable although maintenance men usually wait on service records before assessing a locomotive's ability to perform.

Diesel-electric locomotives announced this year

	ALCO CENTURY SERIES				ELECTRO-MOTIVE		GENERAL ELECTRIC	
	420	424	628	855	GP-35	DD-35	U25C	U50
Horsepower	2,000	2,400	2,750	5,500	2,500	5,000	2,500	5,000
Engine:								
Model	251	251	251	251	567-D3A	567-D3A	FDL-16	FDL-16
No. of cylinders	12	16	16	16	16	16	16	16
Rpm	1,025	1,025	1,050	1,050	900	900	1,000	1,000
Cycles	4	4	4	4	2	2	4	4
Traction motors	GE-752	GE-752	GE-752	GE-752	D67-625	D67-625	GE752E5	GE752E5
Wheel arrangement	B-B	B-B	C-C	B-B-B-B	B-B	D-D	C-C	B-B-B-B
Wheel diameter, in.	40	40	40	40	40	40	40	40
Gear ratio	74:18	74:18	74:18	74:18	62:15	62:15	74:18	74:18
Maximum speed, mph	70	70	70	70	71	71	70	70
Minimum curve radius, ft	191	191	274	274	150	295	273	274
Tractive effort, continuous, lb.	53,000 (11.5 mph)	53,000 (14.0 mph)	79,500 (11.5 mph)	106,000 (16.6 mph)	51,400 (12 mph)	102,800 (12 mph)	79,500 (9 mph)	106,000 (14.7 mph)
Length inside knuckles, ft-in.	60-3	59-4	69-0	86-0	56-2	87-11	64- 6	83- 6½
Height over-all, ft-in.	15-2	15-2	14-8¼	16-4¾	15-3	15- 9¾	14-10½	16-10⅞
Width, ft-in.	10-1⅝	10-1⅝	10-1⅝	10-1⅝	10-3⅛	10- 3⅛	10- 6½	10- 6½
Wheel base, ft-in.:								
Truck (rigid)	9-4	9-4	12-6	9-4	9-0	17- 0¾	13- 0	9- 4
Total locomotive	43-9	41-10	53-11	70-7½	44-4½	72- 0¾	49-10	68- 1
Weight, lb	240,000	246,000	340,000	528,000	244,800	488,000	335,000	556,000
Fuel capacity, gallons	2,000	2,000	2,000	4,000	1,700	5,200	1,700	5,800
Sand capacity, cu ft	28	28	48	64	40	46	32	60

The 424 represents Alco's Century line that includes the 5,500-hp 855.



GE's six-axle, six-motor U25C delivers 79,500 pounds tractive effort.

The 2,500-hp GP-35, EMD's latest in popular general-purpose class.

Both Alco and EMD have new engine designs and both have increased engine speed. Alco's new 251C turns at 1,050 rpm, 25 more than other models. EMD's 567-D3A engine speed has been increased to 900 rpm, 65 more than 567-C and 567-D designs. EMD also has an all-new electric transmission for its new locomotives with a D-32 main generator and D-67 traction motors. It is developments such as these that have made it possible for the builders to produce higher-horsepower models.

A significant factor in the development of new locomotive designs is the fact that no one design can perform with equal efficiency under the varying operating conditions of different railroads. The road switcher does a remarkable job and EMD engineers say, "Of singular importance in the successful application of the GP-30 locomotive on U.S. railroads has been its broad range characteristics, the ability to operate in ultra-high speed freight service on a given run and more heavy tonnages in heavy drag operation on another." Yet, one service demands horsepower, the other requires tractive effort. It is probable that the variety in horsepower and wheel arrangements will enable the railroads to select power to fit their peculiar terrain and schedule requirements.

• **Healthy rivalry.** Competition, a fundamental incentive to American industrial progress, is also contributing to the output of new designs. Each of the three major builders fighting for the motive power market must either have comparable models to offer the railroads or be in the position of trying to do "business from an empty cart." The excellent competition now evident can not help but help the railroads get better quality, better performing products at a lower price.

Diesel-hydraulics must enter into any discussion of current locomotive models. Railroads are marking time until they can get a look at the 15 new Krauss-Maffei and the three new Alco diesel-hydraulics to be delivered to the Southern Pacific early next year. More than a look, they will want to find out how they perform and whether the "bugs" that appeared in the first design have been eliminated. As experimental locomotives they have turned in a good performance. Certainly, most railroad men are interested in their adhesion characteristics and in the hydraulic transmission. Most railroad men, too, are willing to let their more affluent brothers do the experimenting.

The hydraulics can probably be credited with spurring the development of the big diesels. Except for transmissions the 5,000-hp diesel-electric models are basically a copy of the two-engine diesel-hydraulics.

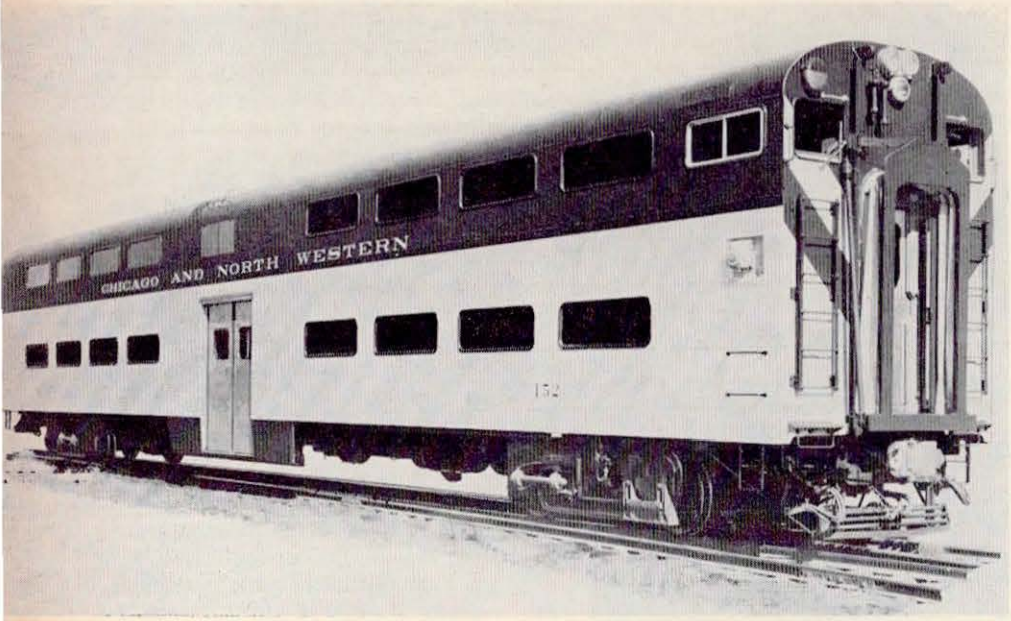
Commuter equipment is big news

New operating techniques and growing civic appreciation of the vital role of rail passenger services in metropolitan areas have sparked the development of new suburban equipment.

Passenger equipment at the 1963 American Railway Progress Exposition exemplifies the attention being given to today's suburban rail services—not only by their operators, but also by administrators and planners for America's rapidly expanding metropolitan areas. The railroad industry, with its long-distance and intermediate-distance passenger services between major population centers now pared to a hard core in the course of controlling the staggering deficits, is today being called upon to devote increased attention to suburban operations into a number of these same centers.

This is seemingly enigmatic. These short-distance runs—plagued with inadequate fares, unremunerative equipment and facility utilization, and competition from government-provided highways—had usually been producing significant losses long before many main-line passenger services sank to this same unenviable status.

M-U cars for Philadelphia are leased by PRR and Reading.



Push-Pull gives M-U flexibility to C&NW diesel operation.

Absence of financial return had, until about 1950, meant that suburban cars and power had either to be main-line hand-me-downs, or over-age equipment which had been designed specifically for commuter services—but those of a much earlier period. Equipment utilization—or rather the inability to achieve it at a respectable level—has long been the principal bugaboo of commuter operations. Their four-hours-per-day use made it desirable for cars and motive power to represent as little investment as possible. In the course of maximizing suburban locomotive utilization so that dieselization of some of these services could be justified, it became apparent that there might be a similar potential in up-to-date suburban passenger cars. In some cases government assistance has sparked equipment replacement.

Regardless of the source of this renewed interest in suburban equipment, the two units on display at the American Railway Progress Exposition represent different approaches to a common problem of regular daily movement of large numbers of passengers into and out of major cities. Large passenger capacity can be provided either by the bi-level design adopted by Far West and Midwestern roads unfettered by clearance problems, or by the three-and-two seating arrangement on one level utilized primarily by electrified Eastern roads with their more restrictive clearances. Both Budd, builder of the Pennsylvania electric multiple-unit car, and Pullman-Standard, builder of the bi-level Chicago & North Western coach, have built cars of the two types in supplying the needs of different roads.

Trains made up of cars of either type are capable of rapid acceleration and deceleration—the product of adequate power and braking along with over-all light weight. By maximizing the capacity of the cars—reducing the number needed and the consequent investment—the per-passenger dead weight is reduced to again produce higher performance levels. Push-pull operation has brought the flexibility of electrified multiple-unit cars to non-electrified services.

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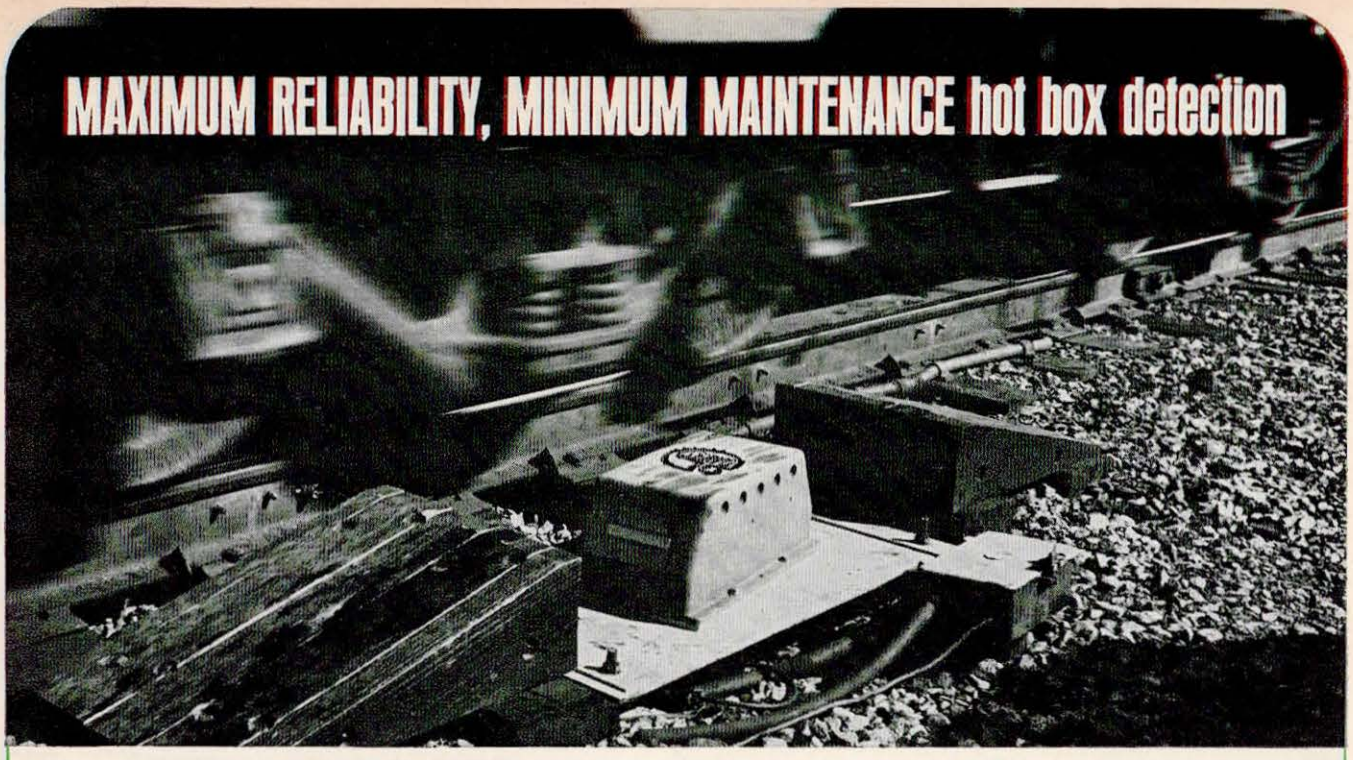

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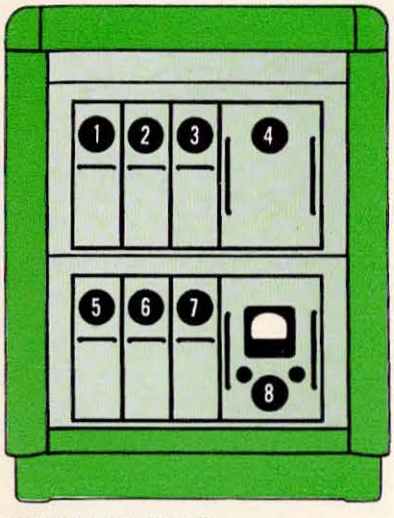

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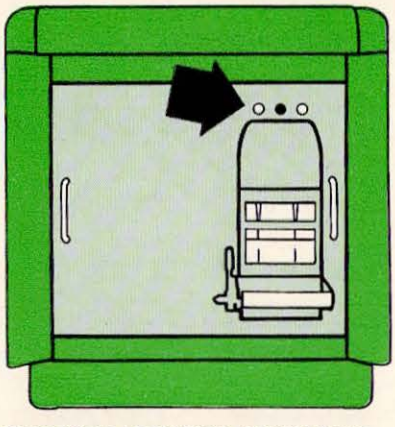

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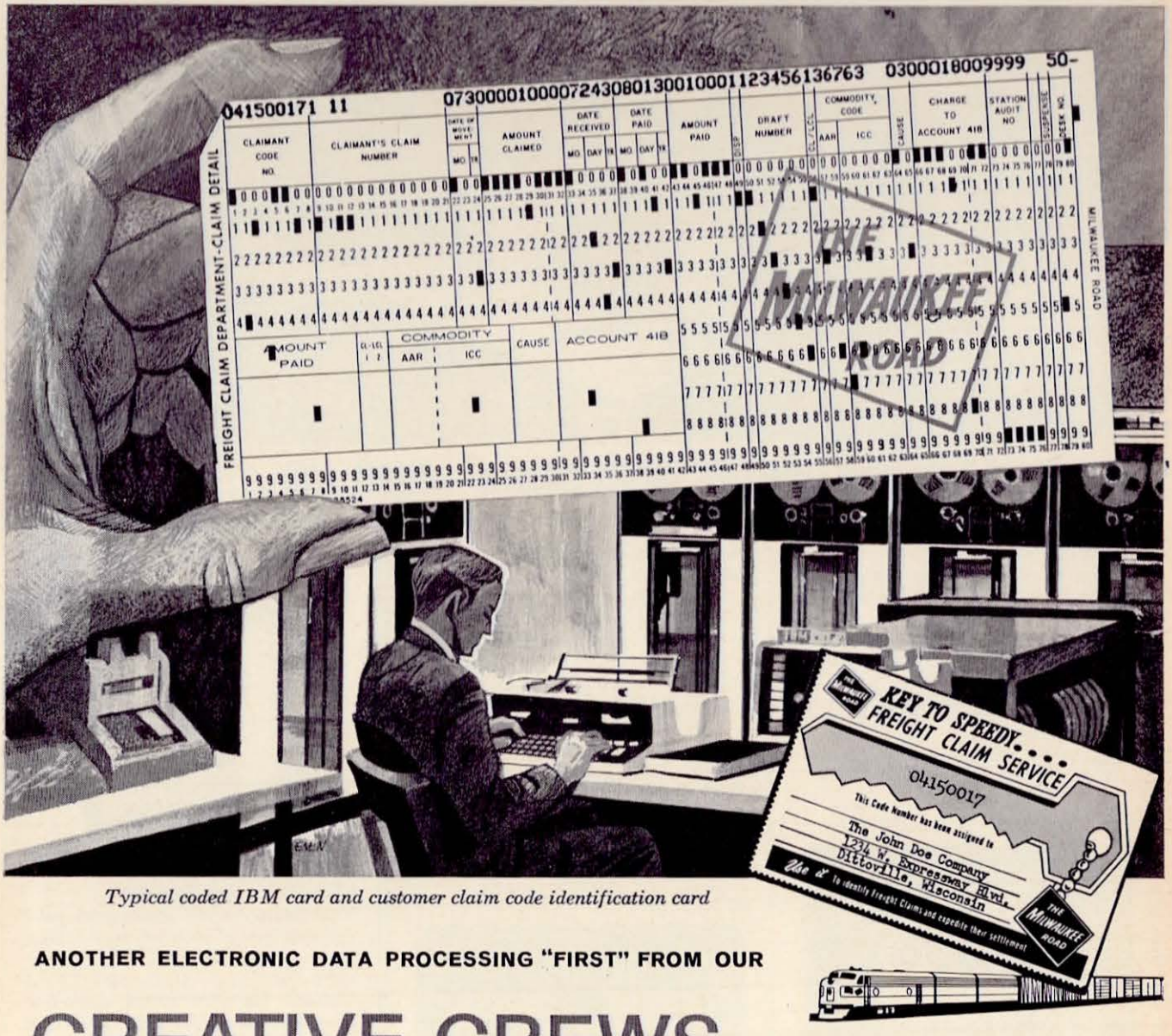

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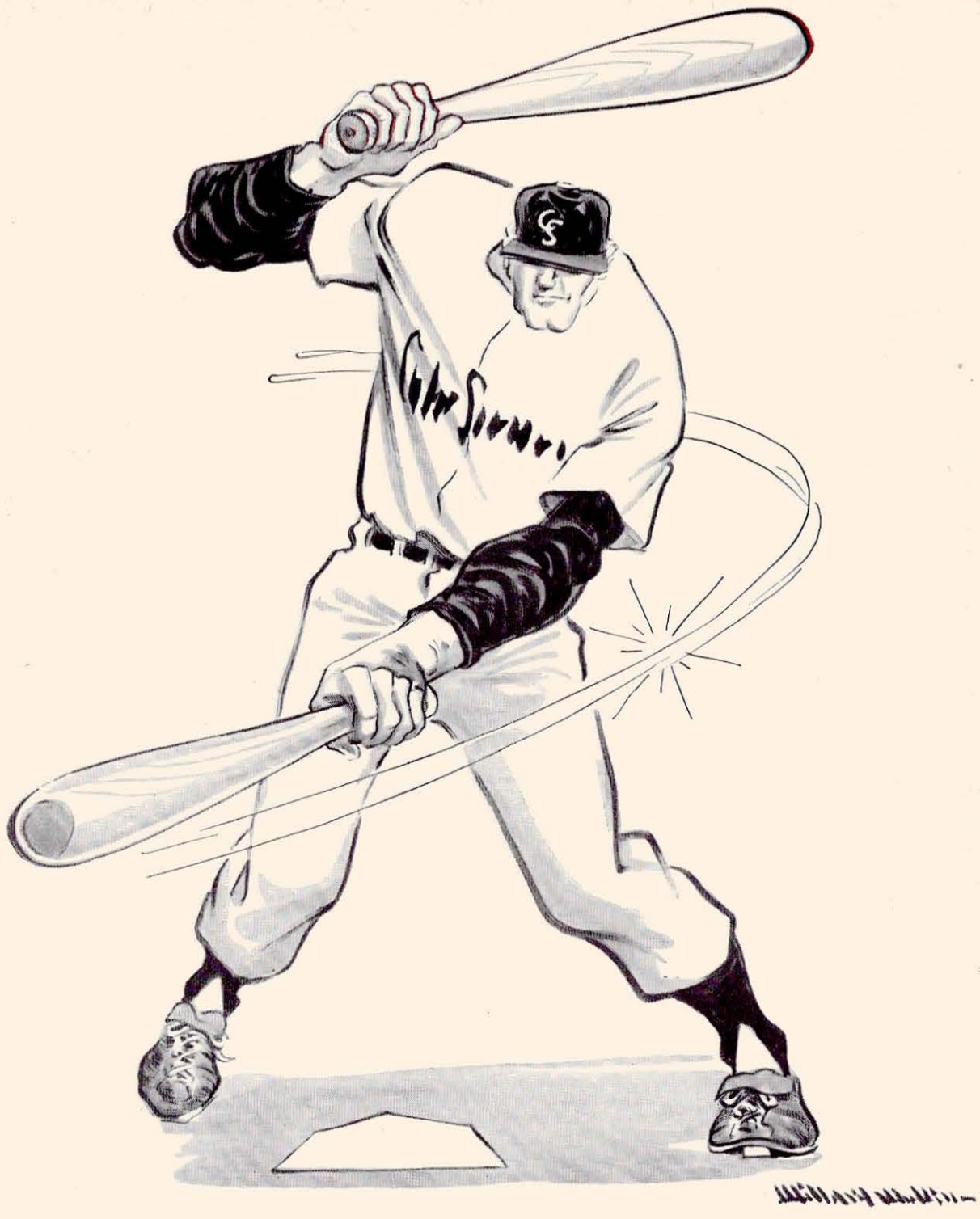

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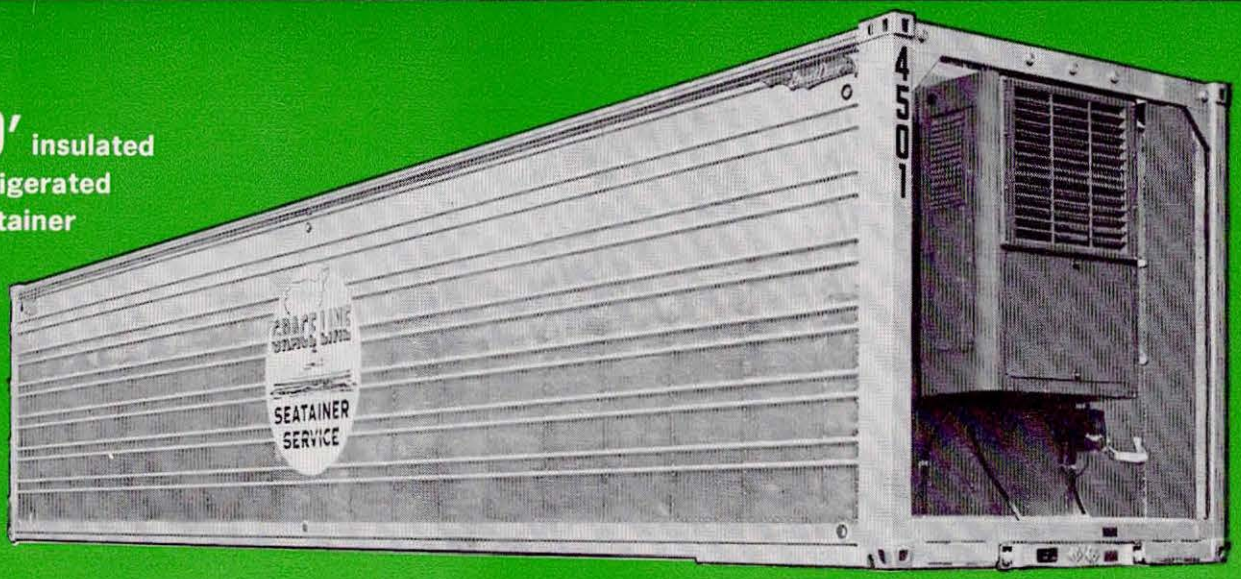

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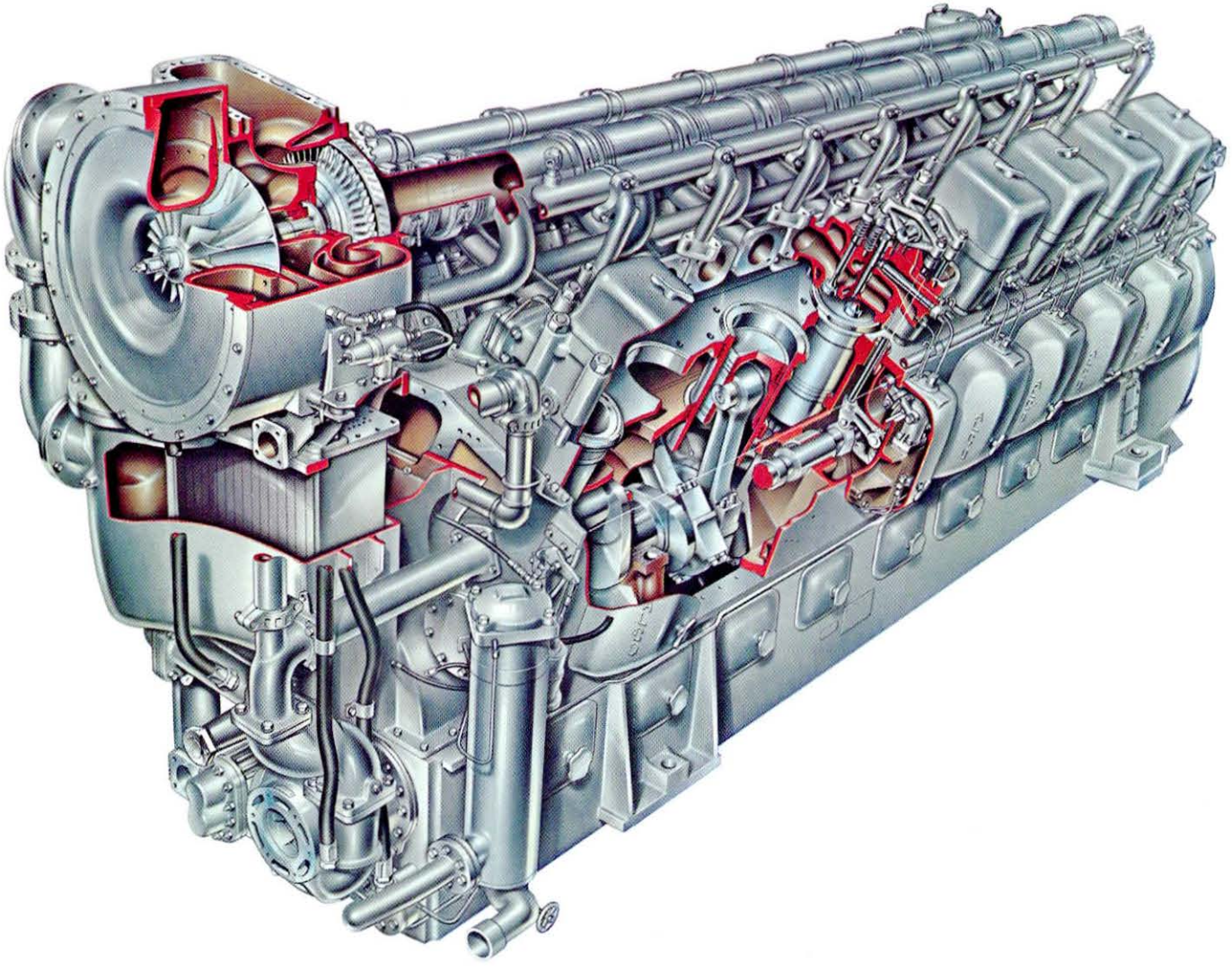

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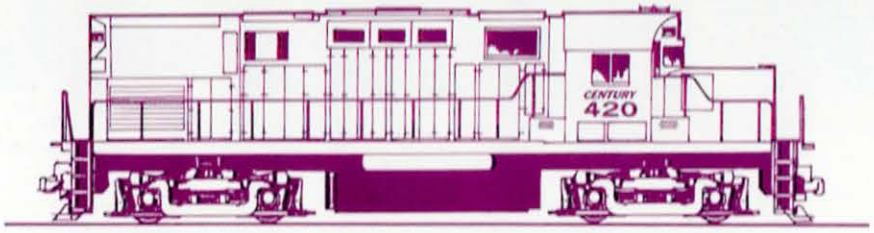
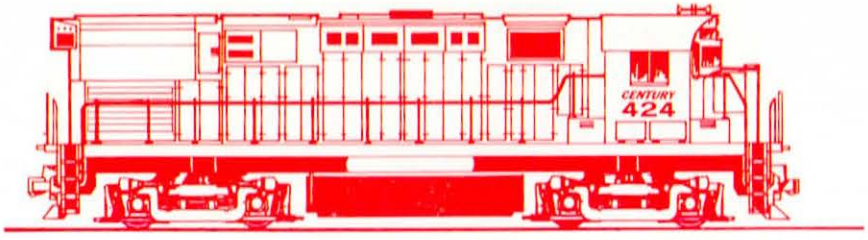
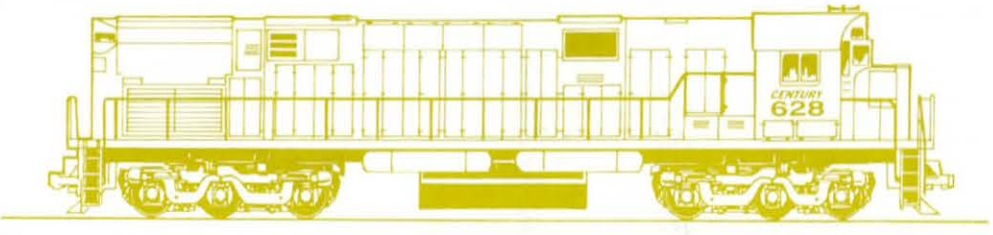


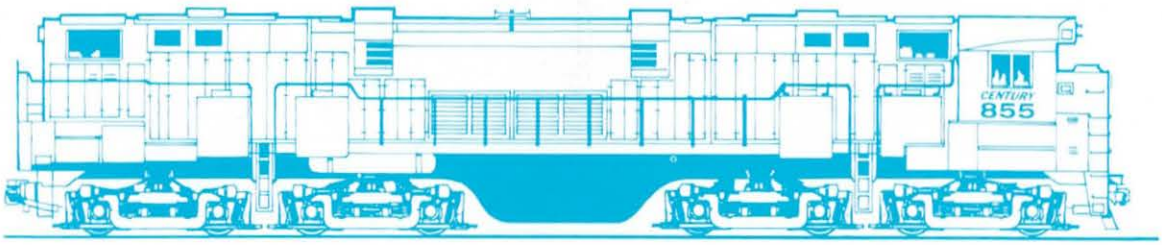
CENTURY 420 has four axles, four traction motors, and a 12-cylinder ALCO 251-C diesel engine generating 2000 hp for traction.



CENTURY 424 has four axles, four traction motors, and a 16-cylinder ALCO 251-B diesel engine generating 2400 hp for traction.



CENTURY 628 has six axles, six traction motors, and a 16-cylinder ALCO 251-C diesel engine generating 2750 hp for traction.



CENTURY 855 has eight axles, eight traction motors and two 16-cylinder ALCO 251-C diesel engines generating 5500 hp for traction.

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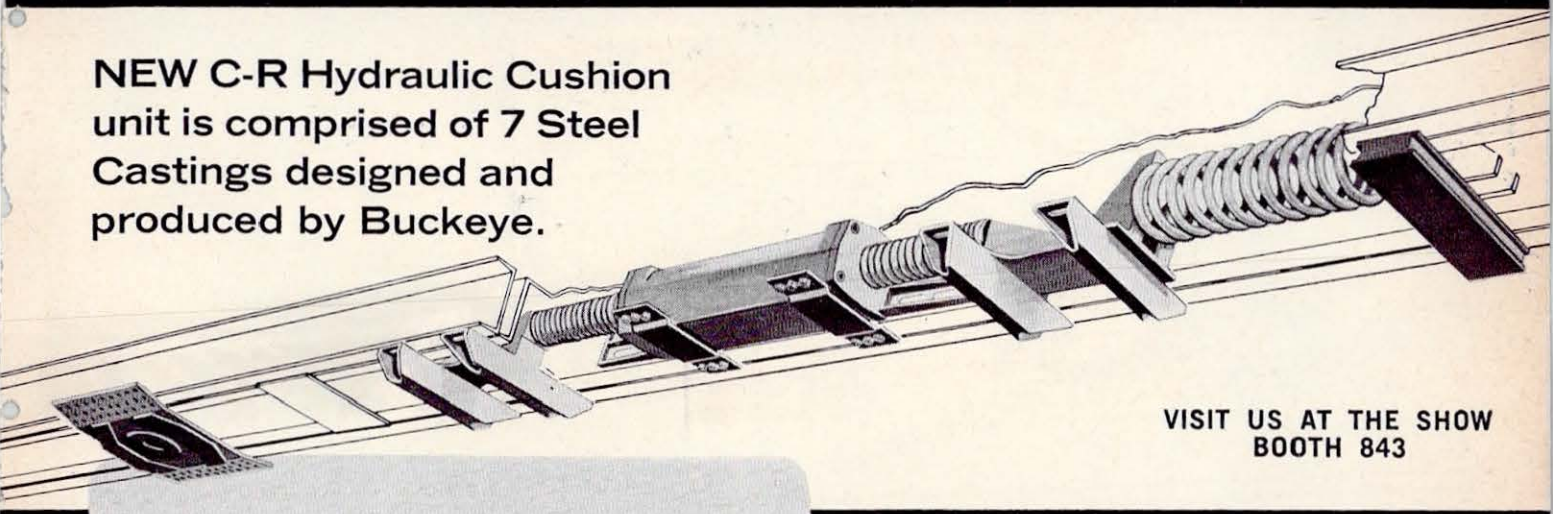

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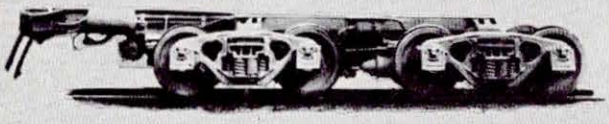

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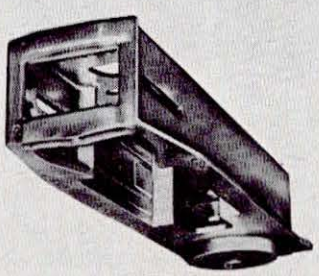

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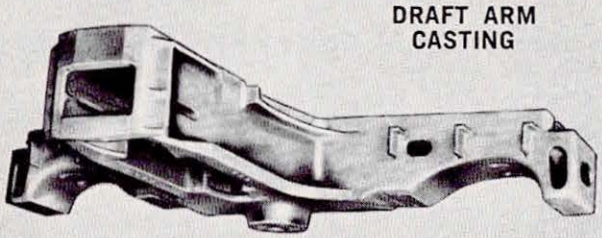

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TRUCK BOLSTERS • TRUCK SIDE FRAMES • BUCKEYE C-R (Cushion-Ride) TRUCKS • C-R PACKAGE UNITS • BUCKEYE HIGH CAPACITY 6 & 8 WHEEL TRUCKS • COUPLERS • COUPLER DRAFT YOKES • DRAFT SILL CASTINGS • HYDRAULIC CUSHIONED UNDERFRAMES • MISCELLANEOUS FREIGHT CAR CASTINGS

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LIST GROWS AS CARRIERS REALIZE

America's leading railroads are modernizing more and more of their cars with Evans DF and DF-B equipment. These cars earn greater revenue . . . are always in demand because shippers appreciate equipment that enables them to load heavier without costly dunnage and with virtually no damage.

Evans DF—America's most popular crossmember device is ideal for double decking and for protecting uneven lading.

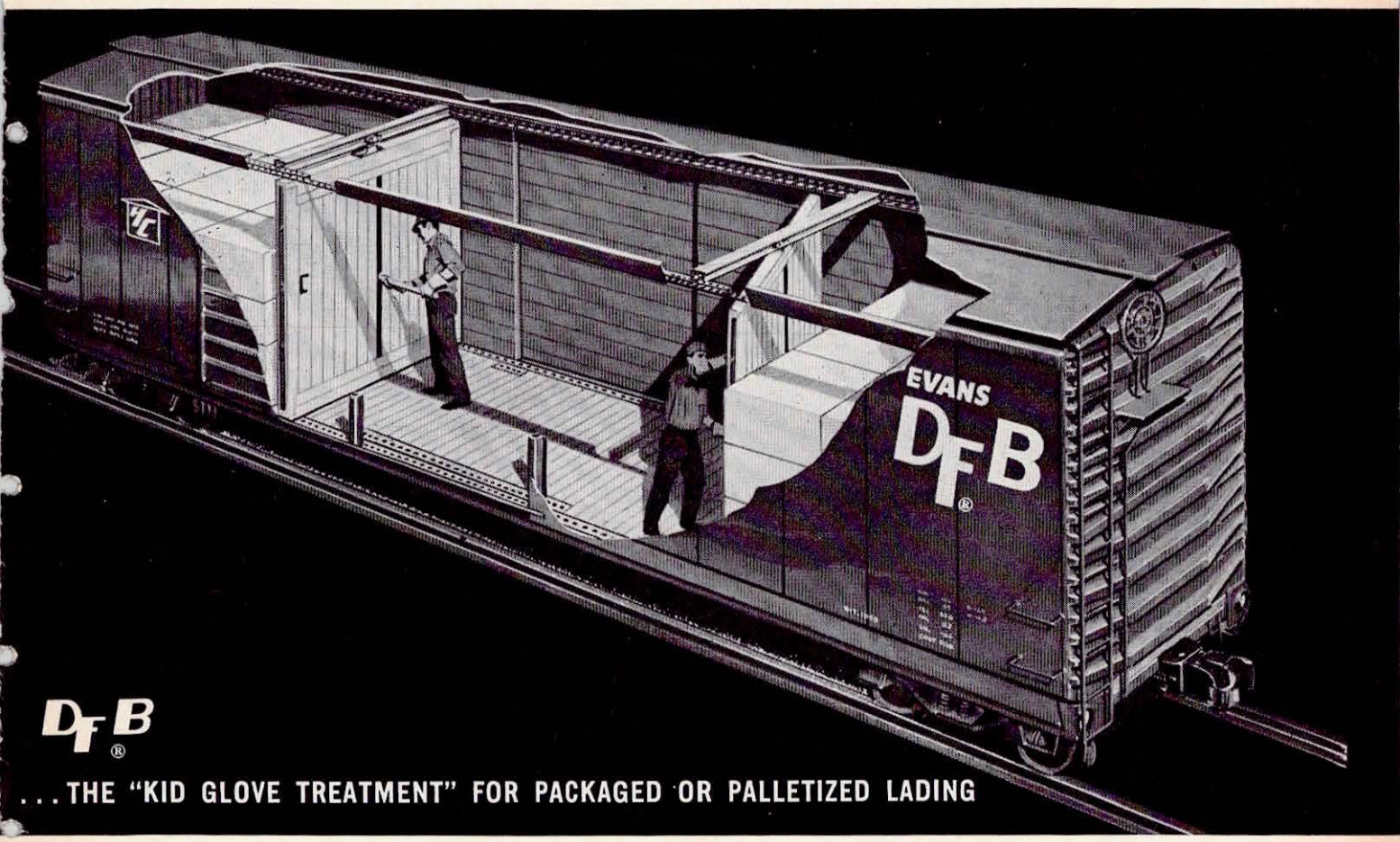
Evans DF-B—the one-piece damage-prevention bulkhead, positioned and locked with one lever by one man, is today's fastest, most popular way to brace straight-sided lading. DF-B bulkheads require fewer moves and allow more lift truck room when loading.

Railroads and their shippers also benefit from Evans' large staff of experienced Loading Engineers, strategically located throughout the country for on-the-spot service. For more information write Dept. A-10, Evans Products Company, Plymouth, Michigan 48170.

SHIP SAFELY WITH THE "KID GLOVE TREATMENT"®

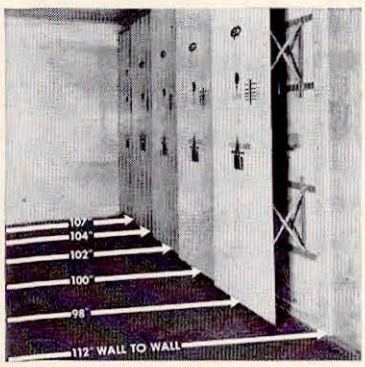
ACL ACY AM. COLLOID CO. ART AT&SF B&LE B&M B&O BETH. STEEL C of NJ CB&Q C&EI CGW CMStP&P C&NW CN C&O CP CLINCHFIELD CRIP D&H D&RGW DT&I D&TSL E-L EVANS PRODUCTS COMPANY FGE GAEX GARX GB&W GC&SF GM&O GN GTW GULF OIL IC IT KCS KO&G L&N LV MC MDT MKT MN&S MP MONON M&StL NKP NP NS N&W NYC NY Chic. & StL NYNH&H NORTH AMERICAN CAR PFE PRR P&GD P&WV PULLMAN RF&P READING REM. RAND RUTLAND SAL SP SSW STL-SF SOO LINE SOUTHERN ST. LOUIS REF CAR T&P UP U.S. ARMY U.S. NAVY WABASH WM WFE WP

UNIQUE BENEFITS OF EVANS EQUIPMENT



DF B

. . . THE "KID GLOVE TREATMENT" FOR PACKAGED OR PALLETIZED LADING



Evans new "6-position" sidewall fillers reduce car width to prevent side-to-side movement of packaged or palletized lading.

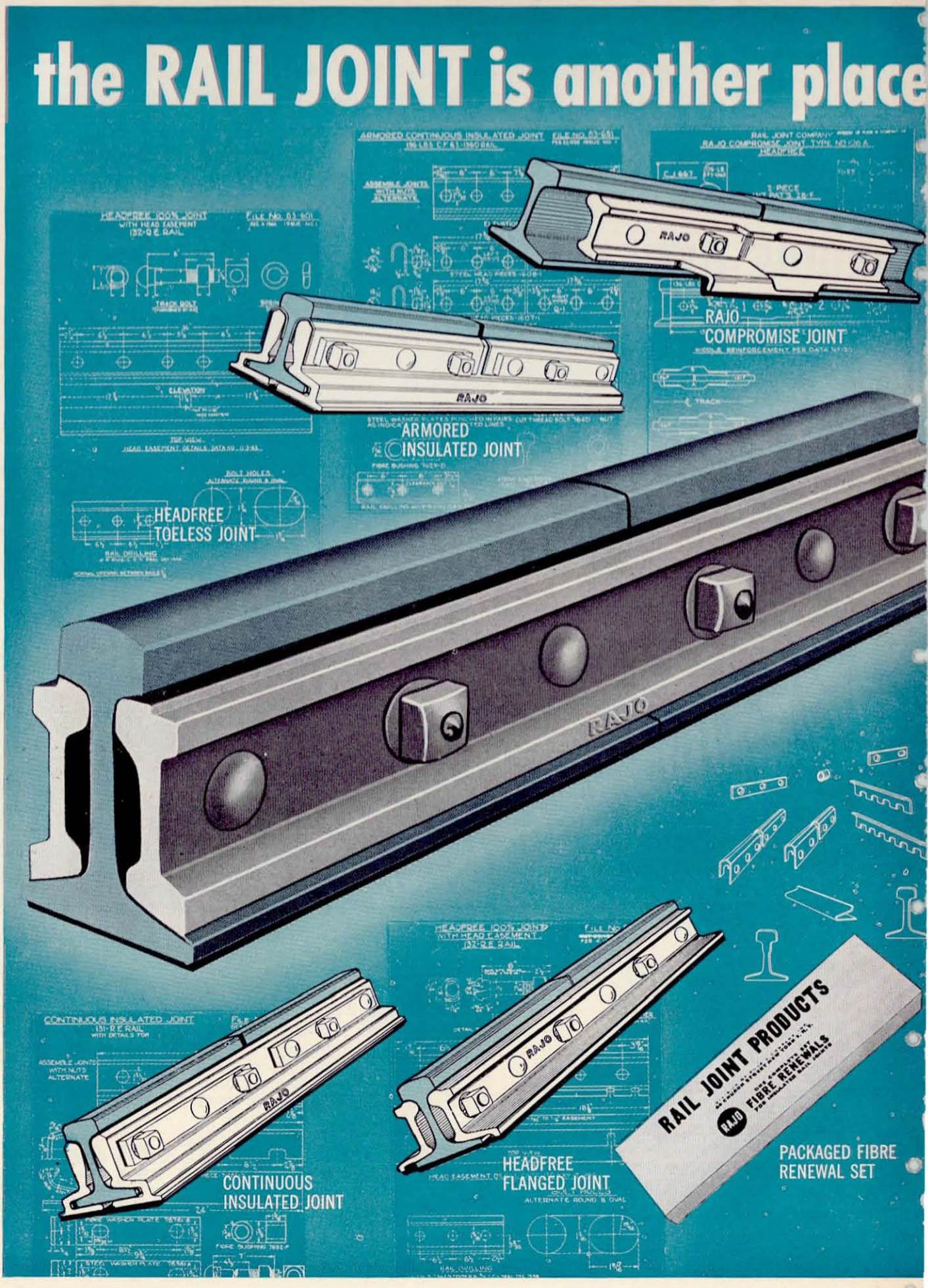
EVANS PRODUCTS COMPANY
PLYMOUTH, MICHIGAN

DF-B Bulkhead Equipment, DF® Loader for freight cars and truck trailers, Hydra-Cushion® Underframe, Auto-Loader (TM), XAP Car Devices, Material Handling and Special Equipment Racks, Freight Car Sidewall Fillers.

EVANS

TRANSPORTATION EQUIPMENT DIVISION

In Canada: International Equipment Company Limited, Licensees and Manufacturers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where Precision SAVES MOST!

...in Lower Cost INSTALLATION...in Less MAINTENANCE...in Longer RAIL LIFE

Rajo Rail Joints for 60 years have been considered standard by major railroads and relied upon to cut installation costs, reduce maintenance expense and increase rail life.

This year-after-year preferment by major railroads is due to Rajo's continuing engineering research and development in design, precision and uniformity of quality. Coupled with this is specialized Engineering Service on track problems readily available through trained field representatives of Poor & Company.

All this adds up to good reasons why Rajo Rail Joints and Insulation materials are ***truly Products of***

Progress

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RAILWAY PRODUCTS DIVISION

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IN CANADA: *The P. & M. Company Ltd., The Rail Joint Company of Canada Ltd.*

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IMPROVED FAIR Rail Anchors

RAIL JOINT PRODUCTS
Rail Joints
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Meco Rail and Flange Lubricators
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PEERLESS EQUIPMENT PRODUCTS
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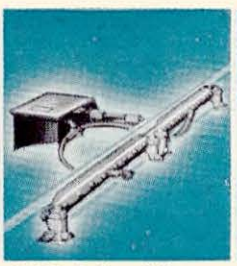
B-575

OUTHWORTH Brush utter — one machine oes work of eight men

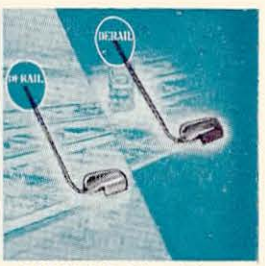
MACK Reversible Switch Point Protectors — increase life of points up to ten times

PEERLESS T-1 Draft Gears for all new cars and maintenance

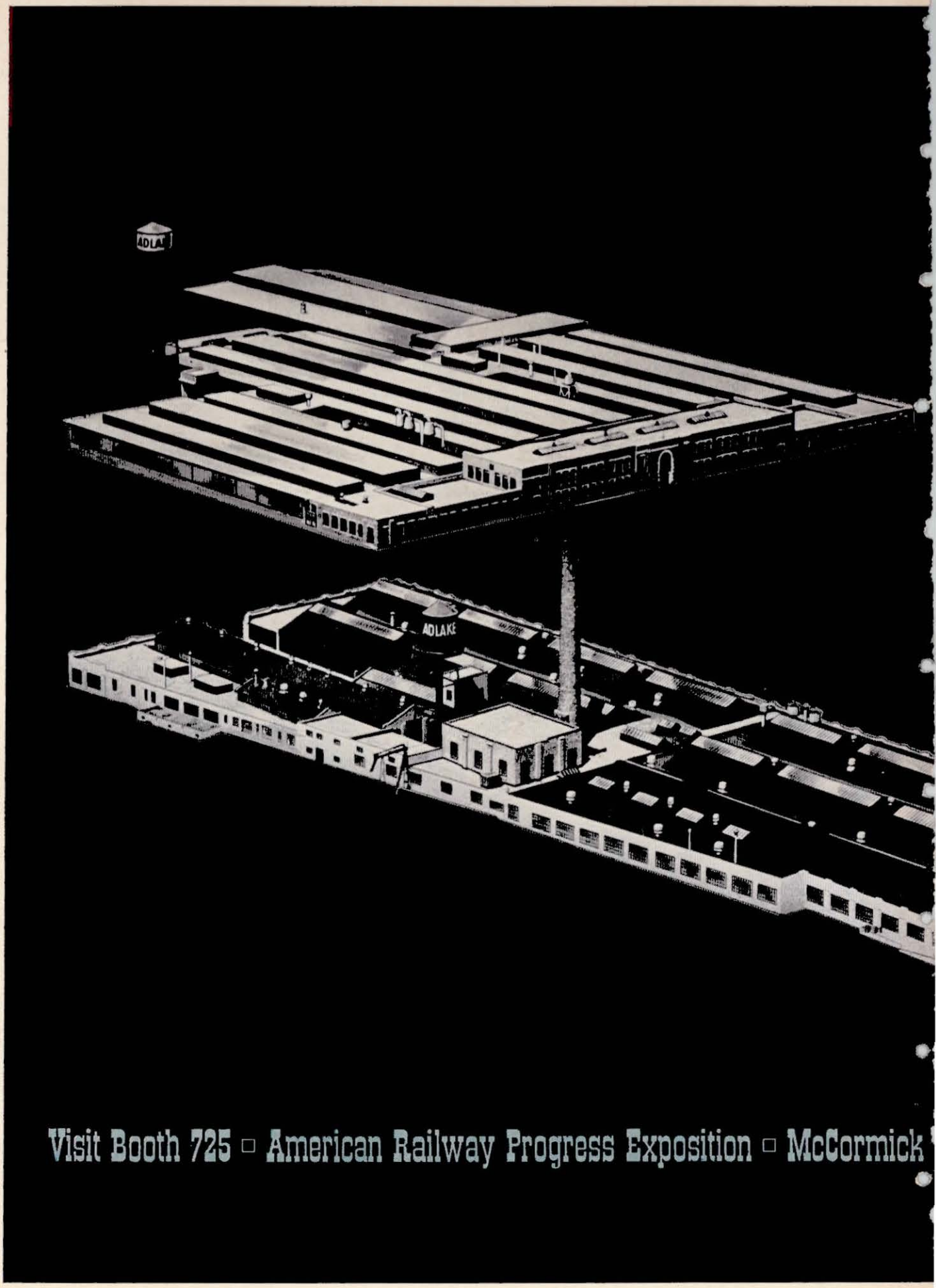


MECO Rail and Flange Lubricators . . . first choice of railroads since 1926

IMPROVED FAIR Rail Anchors provide up to 5 times more bearing area to prevent rail creepage



RICHTER Blue Flag Derail insures day and night safety for men working under and between cars



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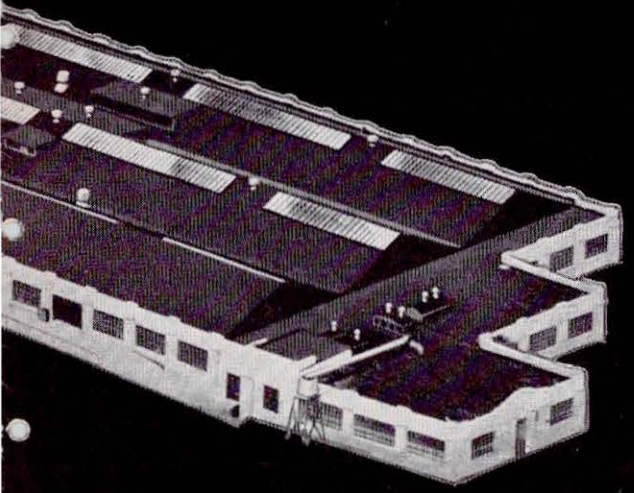
The Adlake plant covers ten full acres. Has facilities to cast, extrude, cut, punch, weld, bend and finish metals, to fabricate products of glass, rubber, cloth and copper.



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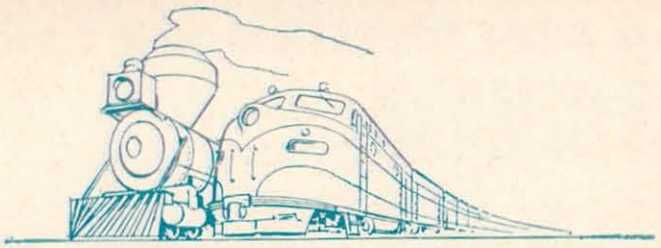

WE'VE BEEN WORKING ON THE RAILROAD!

[SINCE 1857]

Naturally, we're proud of that. We're proud, too, of the part Adlake continues to play as the major source of supply for hundreds of items. Everything from windows for cars and locomotives to bridge and navigation lamps. And Adlake is still growing. With the purchase of the Loeffelholz and Dwight Austin Products companies, Adlake now offers an expanded line of hardware *plus* passenger car seats and club and business car furniture. What can Adlake do for you? Contact your nearby Adlake Man or us direct.

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Suppliers of custom windows and curtain walls of aluminum and stainless steel for commercial and institutional buildings.

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Suppliers of the world's most complete line of mercury plunger and mercury wetted relays.

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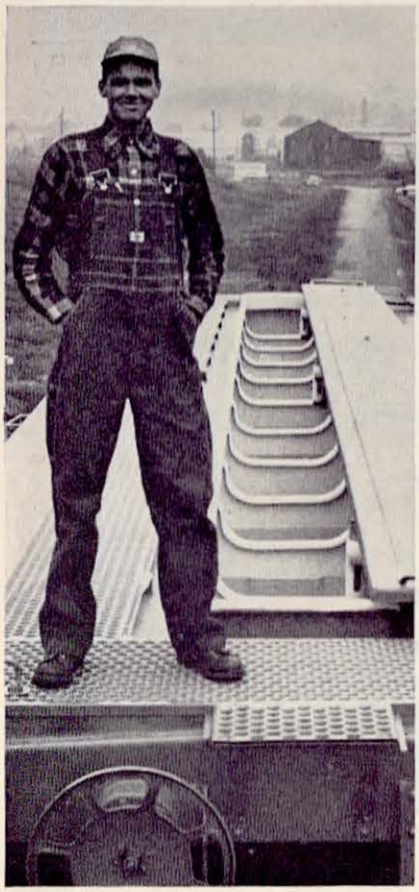
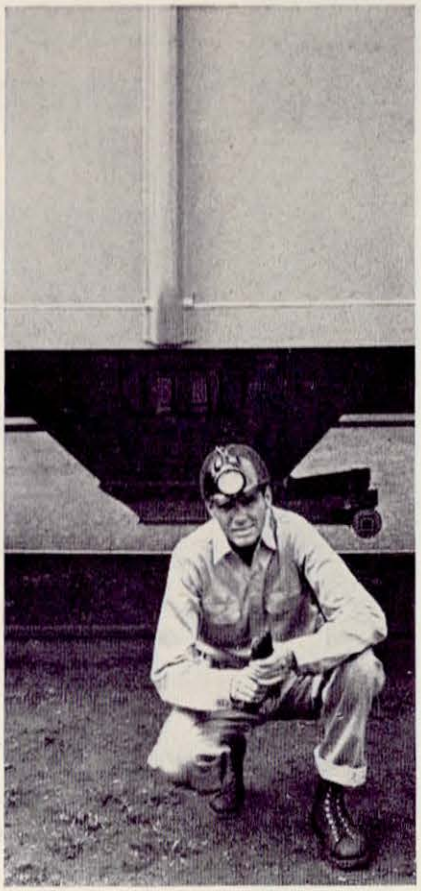
PS-2CD COVERED HOPPERS IN DEMAND:



FOR GRAIN

Trough-type loading and extra large cubic capacity—4,000 and 4,427 cu. ft.—are just two of the reasons the Agricultural Industry has put PS-2CD Covered Hopper Cars in demand for the bulk movement of grain and other agricultural commodities. Result: lower transportation and handling costs per bushel—important considerations for shippers and receivers.

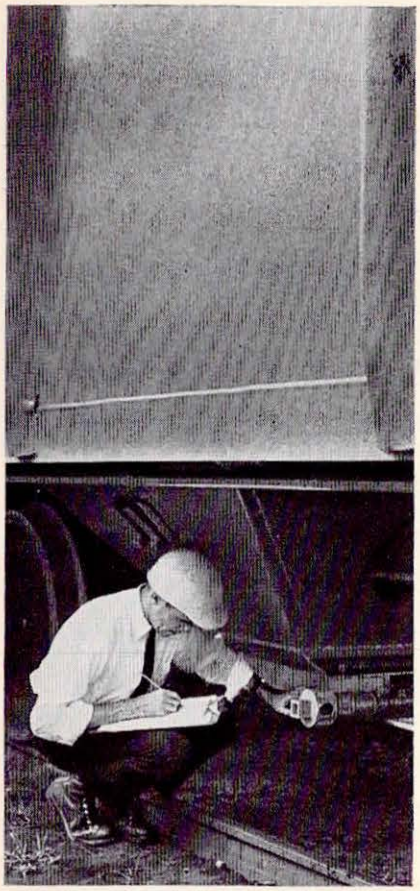


FOR MINED PRODUCTS

Center-line unloading, a selection of two or three compartments, and 100-ton truck capacity are major reasons why the Mined Products Industry has put PS-2CD Covered Hopper Cars in demand for the bulk movement of potash, alumina, silica sand and similar products. Overall short car length is important, since it lets PS-2CDs fit existing unloading pits.

FOR CHEMICALS

Smooth, ledge-free interiors, special linings, choice of 45° or 50° slope sheet angles are just some of the reasons the Chemical Industry has put PS-2CD Covered Hoppers in demand for the movement of powdered or pelleted chemical commodities. In addition, tight-sealing stainless steel hatches and pneumatic outlets help fill sanitary protection requirements.



FOR MATERIALS HANDLING

A selection of fast-acting gravity outlet gates, combination pneumatic-gravity outlets or straight pneumatic outlets, shows why Materials Handling Engineers recommend PS-2CD Covered Hopper Cars for in-plant materials handling systems. Additionally, all three center discharge unloading devices can be one-man operated from either side of the car.

FOR SERVICE LIFE

Combine service-proved rectangular design and center-sill construction with the engineering and production skills that produced the famous PS-2 Covered Hopper and you can see why Railroad Operating and Mechanical Departments are expecting PS-2CD Covered Hoppers to provide long service life. In fact, over 4,000 PS-2CDs have already been put in demand by 16 shipper-conscious railroads.

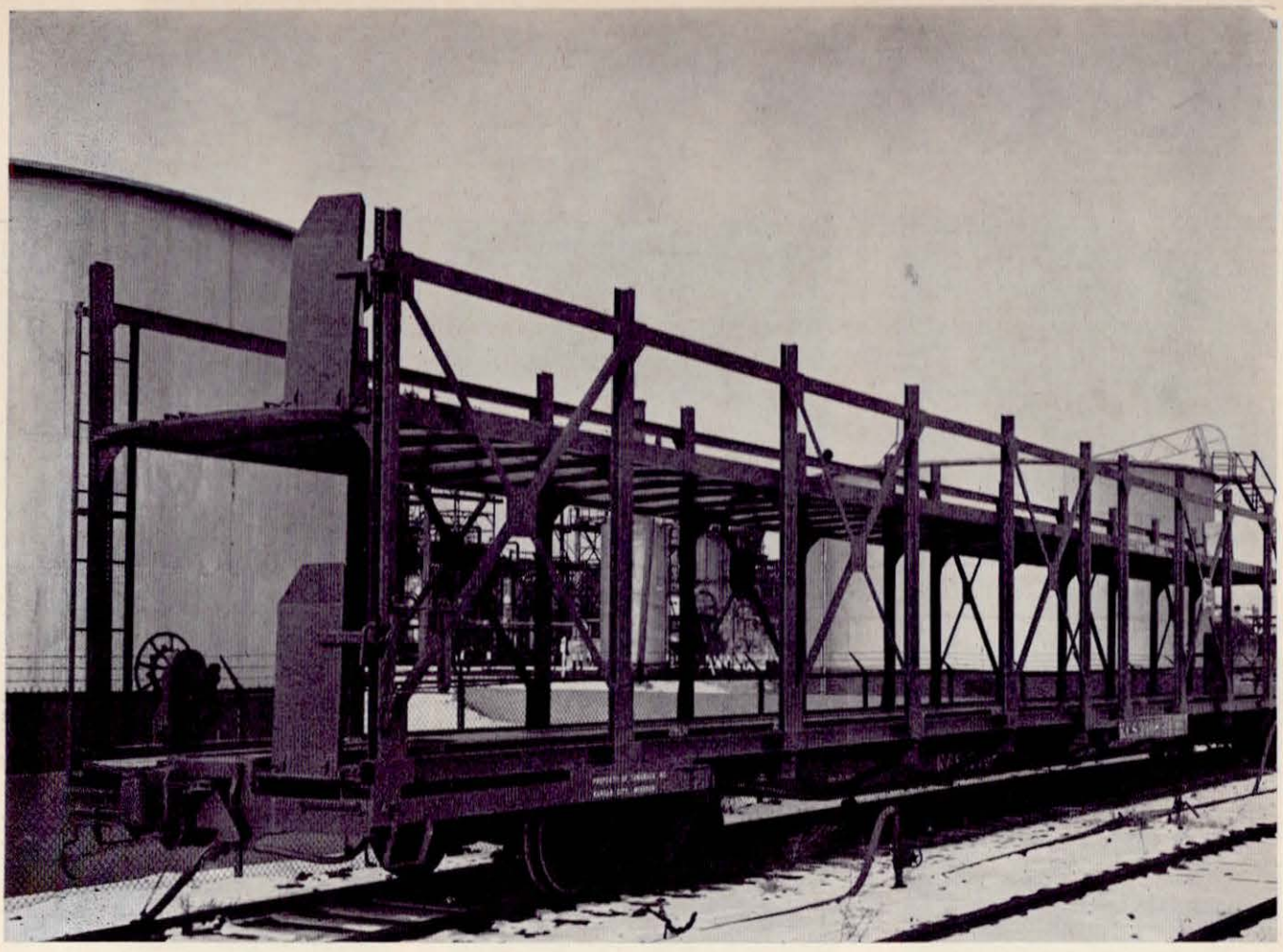
FOR REVENUE

The PS-2CD's high capacity, center discharge design and broad selection of alternate features which supply new versatility in the transportation of agricultural, mined and manufactured commodities, adds up to two words for Railroad Freight Traffic Representatives—Shipper Demand. Translated into terms of new equipment . . . this demand means revenue to the owning railroad.

FOR AN ILLUSTRATED BROCHURE ON THE PS-2CD, WRITE:

PULLMAN-STANDARD

A DIVISION OF PULLMAN INCORPORATED
200 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS
BIRMINGHAM • PITTSBURGH • NEW YORK • SAN FRANCISCO
J. C. FENNELLY CO., REPRESENTATIVE



Kansas City Southern Uses *FreightMaster*® Cushioning

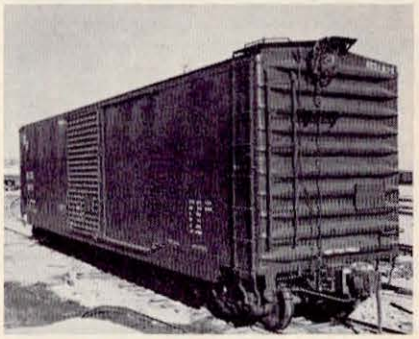
Kansas City Southern plans better customer service and reduced damage claims — with FreightMaster Hydraulic Cushioning Devices.

89′-1″ Autoracks feature bi-level racks connected directly to the car floor. This is possible because FreightMaster's end-of-car cushioning design eliminates the need for subfloor and rack cushions. Also, car camber has no effect on the operation of the FreightMasters because there is no movement between the car floor and the center sill. The stroke length of FreightMasters is such that bridge plates will always overlap with adjoining cars regardless of "in or out" positioning of the unit when the car is stopped.

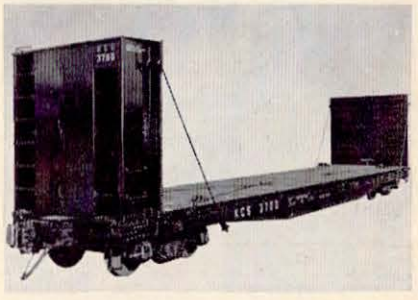
50′-6″ 50T Box Cars will be used in transporting newsprint and other easily-damaged commodities. A FreightMaster requires no periodic maintenance. Angular impact is "straightened out" by the FreightMaster's unique self-aligning unit which is backed solidly to the car structure.

54′ Chain Cars for finished building products have a clearance between bulkheads of 48′-6″. Unlike sliding-sill cars, independent-acting FreightMasters absorb impacts without passing the force on to the next car. Thus every FreightMaster cushioned car helps protect the lading and structures of adjoining cars as well as its own.

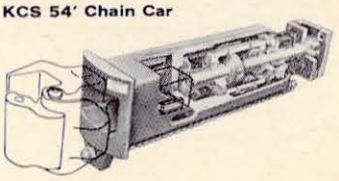
Get the full story about FreightMasters — and how they keep claims smaller, cars newer, and customers happier. Write to FreightMaster today.



KCS 50′-6″ 50T Newsprint Car



KCS 54′ Chain Car

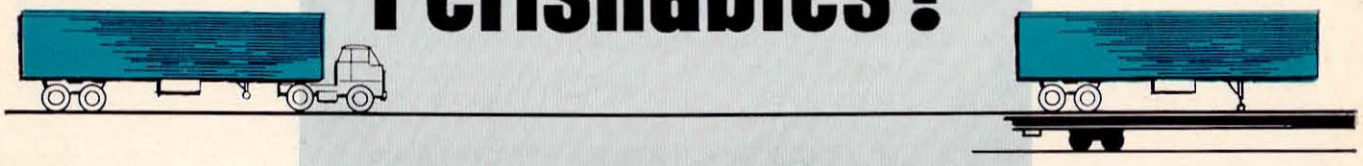


FreightMaster has received A.A.R. limited approval for use in general interchange service.

***FreightMaster*® HYDRAULIC CUSHIONING DEVICE**

424 W. Vickery Blvd. • P.O. Box 2325 • Ft. Worth 1, Texas • ED 5-3046 - A DIVISION OF **Halliburton** COMPANY

Piggybacking Perishables?



These leading railroads protect piggyback cargoes with dependable, proven

THERMO KING

REFRIGERATION UNITS

ALASKA RAILROAD
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NEW YORK CENTRAL
NICKEL PLATE
NORTHERN PACIFIC
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SOUTHERN
SOUTHERN PACIFIC
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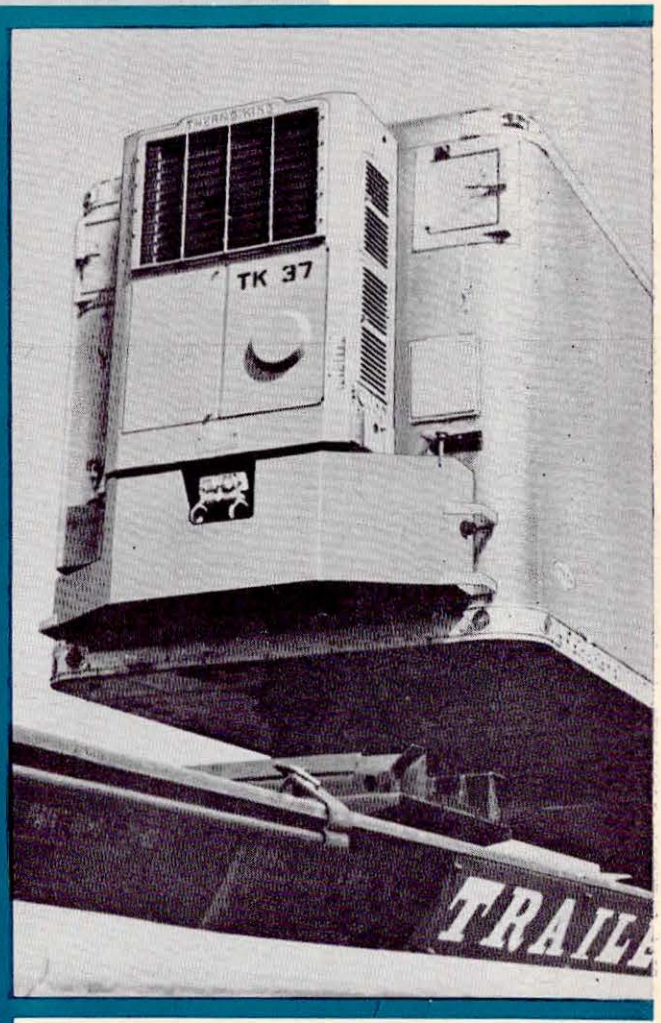


THERMO KING pioneered the refrigeration of piggyback trailers . . . meeting rigid standards of dependability and performance in every way . . . helped railroads develop this vast new marketing system. It's simply good business to protect perishable cargoes with reliable THERMO KING temperature control equipment.

THERMO KING CORPORATION
World Leader in Transport Refrigeration
350-K W. 90th St., Minneapolis 20, Minn.

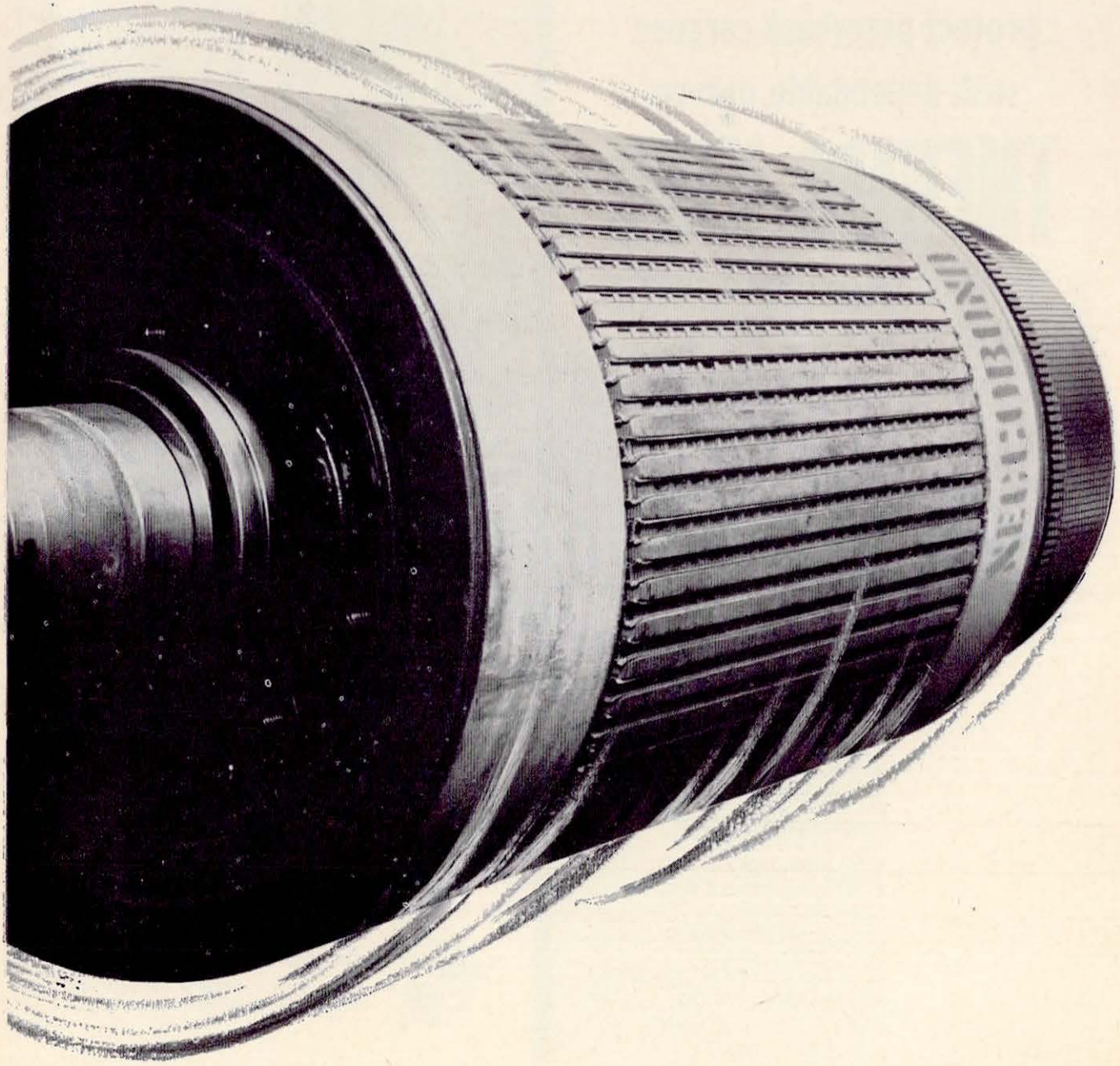
RUNS COOLER!

NATIONAL'S IMPROVED ARMATURE ■ Stainless-steel perforated wedges dissipate heat faster; proved in exhaustive, comparative tests ■ Arch-bound commutator is safer at high speeds ■ Epoxy vacuum impregnation minimizes air voids in insulation, thereby providing cooler operation ■ Encapsulated seals permit free movement of coil ends, prevent damage and seal out dirt and moisture ■ Glass bands have great mechanical strength and withstand high operating temperatures.

National Electric Coil

COLUMBUS 16, OHIO • IN CANADA: ST. JOHNS, QUEBEC

DIVISION OF McGRAW EDISON



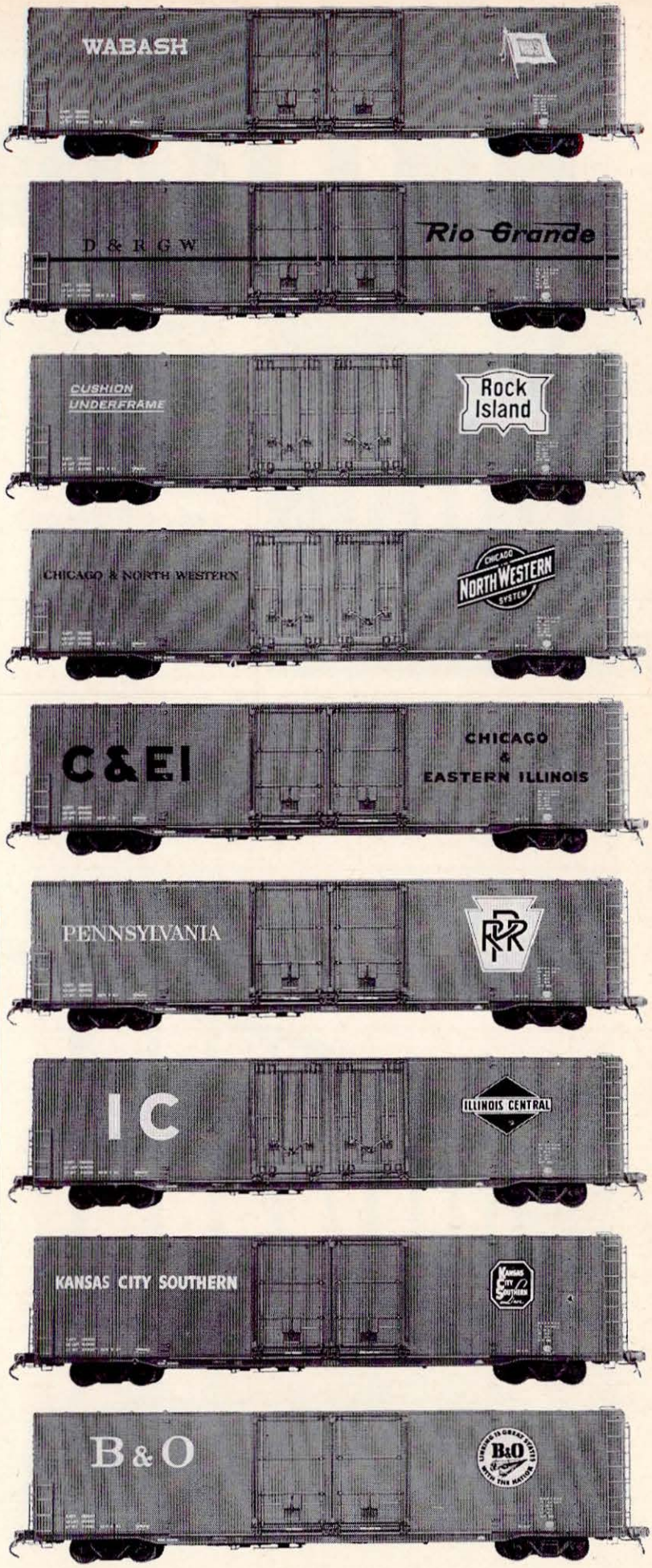
THRALL BUILT AUTO PARTS CARS

SAVING SHIPPERS' TIME AND MONEY;

INCREASING RAILROAD TRAFFIC!

Call
THRALL

...the car you have in mind may already be designed



THRALL CAR OF THE MONTH

THE FULL-CUSHIONED UNDERFRAME AUTO PARTS CAR

The Auto Parts Car is designed to move right into—**and become a part of**—automotive manufacturers' production lines!

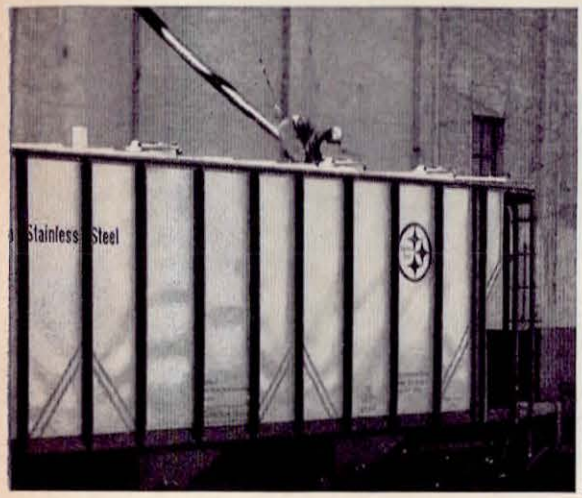
This Thrall-built car is engineered and constructed as an integral part of the manufacturers' distribution system.

Components are racked, complete racks are quickly moved from "in-plant" to "on-the-line" transit in these Thrall cars and delivered, still racked in perfect condition to the assembly line.

Another "idea on wheels" rolling out of the Thrall plant in Chicago Heights.

THRALL
CAR MANUFACTURING COMPANY
2602 WALLACE STREET, CHICAGO HEIGHTS, ILLINOIS

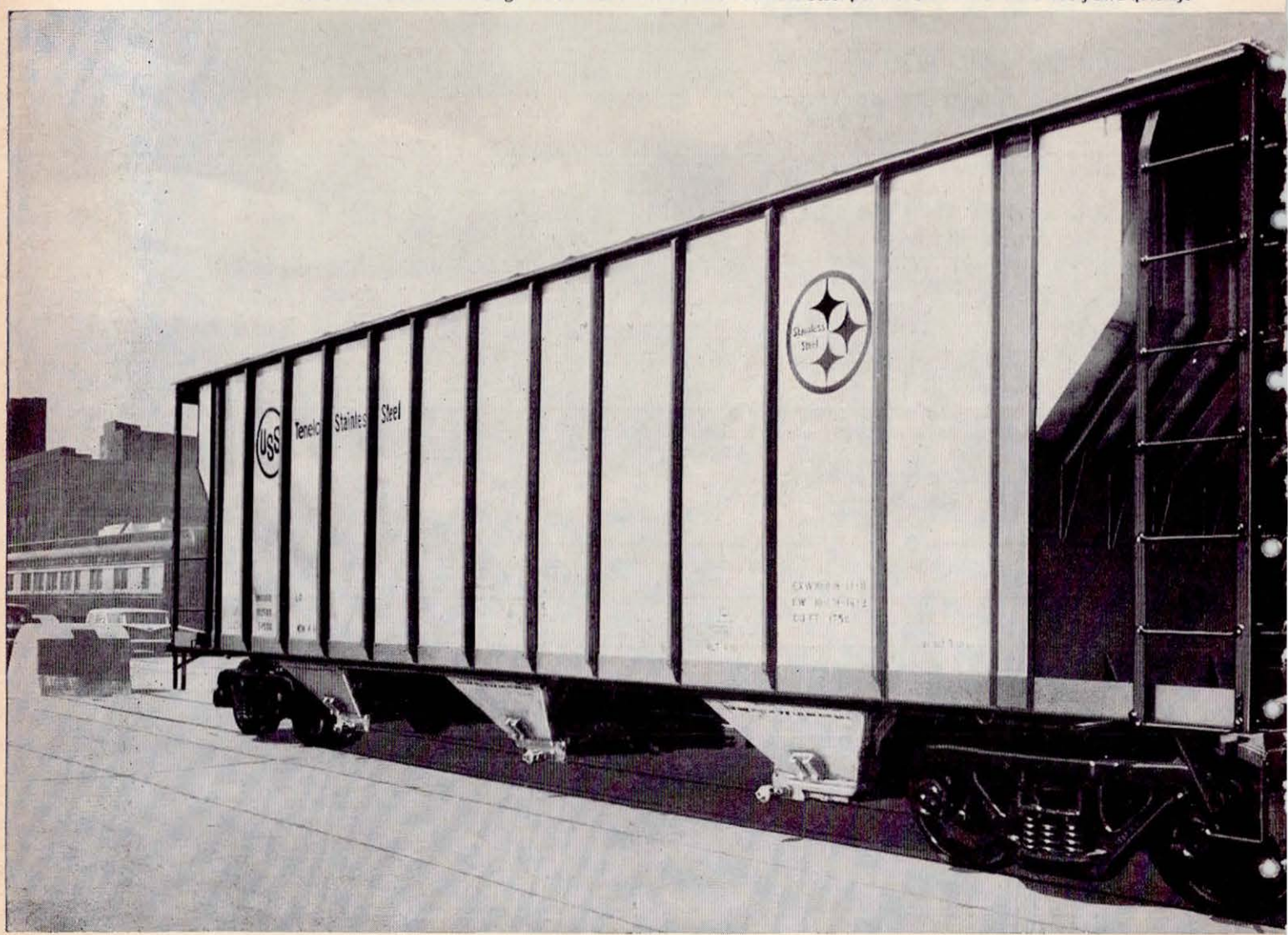
ANYTHING GOES



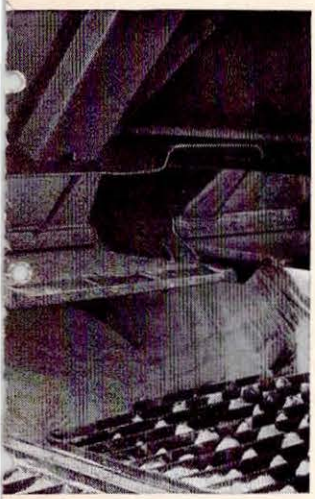
LADING AND LOAD IN TONS

Cement	100	Potash	98
Soda ash	104	Mill feed	39
Silica sand	101	Phosphate rock	95
Bulk malt	59	Super phosphate	91
Blended malt	64	Kaolin clay	84
Sodium tripolyphosphate	65	Roasted dolomite	96
Granulated sugar	87	Grit (corn meal)	45
Alfalfa pellets	84	Brewers rice	89
Calcined petroleum coke	81	Soybean meal	67
Rice	80	Sodium chlorate	62

You can have "kitchen-clean" shipments with a TENELON steel covered hopper car. All sections of the body that come in contact with the lading, including hatches, are TENELON Stainless Steel. There are no linings. A "kitchen-clean" interior is maintained by a washing between shipments. The smooth all-welded seams of the hoppers prevent dirt from accumulating. The smooth surface of the Stainless Steel permits the load to slide freely and quickly.



...in a USS Tenelon Stainless Steel hopper



Anything that can be swept out or hosed away can be carried in the new USS TENELON Stainless Steel covered hopper car without contaminating it for subsequent loads. In freight runs to destination points across the United States, consignees witnessed the unloading of ladings that ranged from cement to sugar to malt to roasted dolomite. The receivers came away with two key observations about the TENELON Stainless hopper: It keeps the lading *clean* and it unloads the lading *fast.*

When it comes to cleanliness, compromise and half-way measures cannot be tolerated. *TENELON Stainless Steel meets the demand for cleanliness.* When it is a matter of unloading lading without problems, it's a matter of saving money. A lading that refuses to flow freely can be a sizable problem that can not only test tempers, but cost money. It is expensive to do with manual labor or mechanical devices a job that should be accomplished smoothly with the force of gravity. *TENELON Stainless Steel meets the demand for slideability.*

Here are some comments from shippers of various products:

Silica sand—"The best self-cleaning qualities in a car we've seen yet. We have a contamination problem and we check cars very closely for cleanliness. This car looks good inside and outside, too!"

Malt—"The malt slides out much better from the car. We did not have to pound the sides as we have to do with other cars."

Sugar—"A car carrying sugar must look clean—*be* clean. This car meets those requirements."

Chemicals—"We're happy to see a car made of Stainless Steel. Our chemicals must meet tight specifications for cleanliness. This car is easy to clean."

Sodium tripolyphosphate—"The dryness of this car is remarkable."

Soda ash—"The load flowed more freely than from other cars. Unloading time was greatly reduced."

During the entire test period, loads of all kinds flowed out quickly due to the slideability of Stainless Steel. There was no pounding or shaking of the car necessary to start action. The self-cleaning qualities of the USS TENELON Stainless Steel car were evident. After simply sweeping with a broom or hosing with plain water, the car was ready for its next load.

Less weight—more payload—low operating costs. The 100-ton capacity USS TENELON Stainless Steel car weighs only 58,500 pounds. Extra strength was built in by using high-strength low-alloy steels such as USS COR-TEN brand in the framework and USS TRI-TEN brand in the center sills. These two steels have minimum yield points of 50,000 psi and USS TENELON Stainless Steel has a minimum yield strength of 70,000 psi. All three steels have superior resistance to atmospheric corrosion so that maintenance is greatly reduced and long service life is assured.

For detailed information about the performance of the first USS TENELON Stainless Steel covered hopper car, send the coupon below. USS, TENELON, TRI-TEN and COR-TEN are registered trademarks.

United States Steel Corporation • Columbia-Geneva Steel Division • Tennessee Coal and Iron Division • American Steel and Wire Division • National Tube Division • United States Steel International (New York), Inc.

United States Steel, Room 6644
525 William Penn Place, Pittsburgh 30, Pa.

Gentlemen:

Please send me your new book, "USS TENELON Stainless Steel Covered Hopper Car," showing car construction and applications. We ship these commodities: (Please list)_____

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Name_____

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USS United States Steel

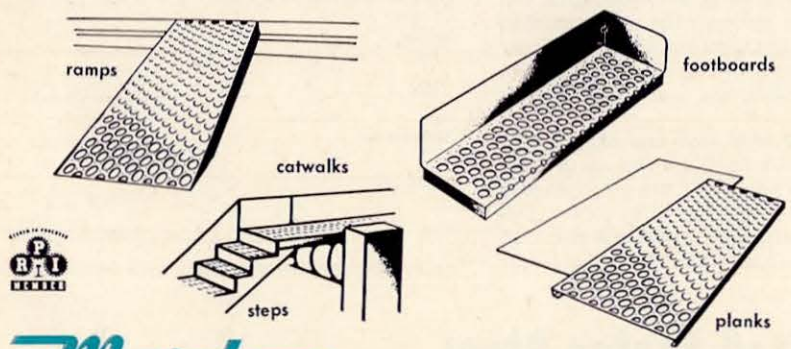
ONE PIECE, perforated design is Stronger

Morton OPEN-GRIP running board

FULLY AAR APPROVED

Safer with famous KASS SELF SHARPENING TREADS

ALSO IDEAL FOR MANY OTHER RAILROAD APPLICATIONS:



Morton MANUFACTURING COMPANY
5125 West Lake Street, Chicago 44, Illinois

B-614

LETTERS

Keeping informed

Milton, Mass.

To the Editor:

On April 1, last, I retired after 47 years of active railroad service, the last 37 years with freight traffic, or what is now known as the freight sales department, of the New York Central at Boston, Mass.

During those years I, of course, became quite familiar with Railway Age and shortly after my retirement concluded that in order to keep currently informed as to the happenings in the railroad industry I should subscribe to your very fine publication and which I did. I particularly like the format used.

Also the many fine special articles and not overlooking the illustrated advertisements of railway suppliers which tell a story of their own. In my early days of railroading an official told me that if I only read the ads in Railway Age I would gain a lot of railroad knowledge and which I have found to be a statement of fact.

The purpose of this communication is simply to inform you how much satisfaction I get from Railway Age, and I would sincerely recommend to all retired railroaders that they subscribe to Railway Age and thus keep their interest in what is going on alive and up-to-date.

Carl R. Erlandson

Railroads—rich or poor?

San Francisco

To the Editor:

My congratulations to you for the splendid article by Henry Lyne, Jr., in the September 9 Railway Age as to the financial condition of the railroads.

It seems to me that a copy of this ought to be sent to all the Congressmen and Senators because it brings out very clearly the fallacy of the brotherhoods' claims that the railroads are really rich and affluent. Additionally, the author tempers his remarks by pointing out that some railroads are doing reasonably well but that enough of them are not doing at all well so that even on the average the results have deteriorated over a period of years.

F. B. Whitman
President
Western Pacific

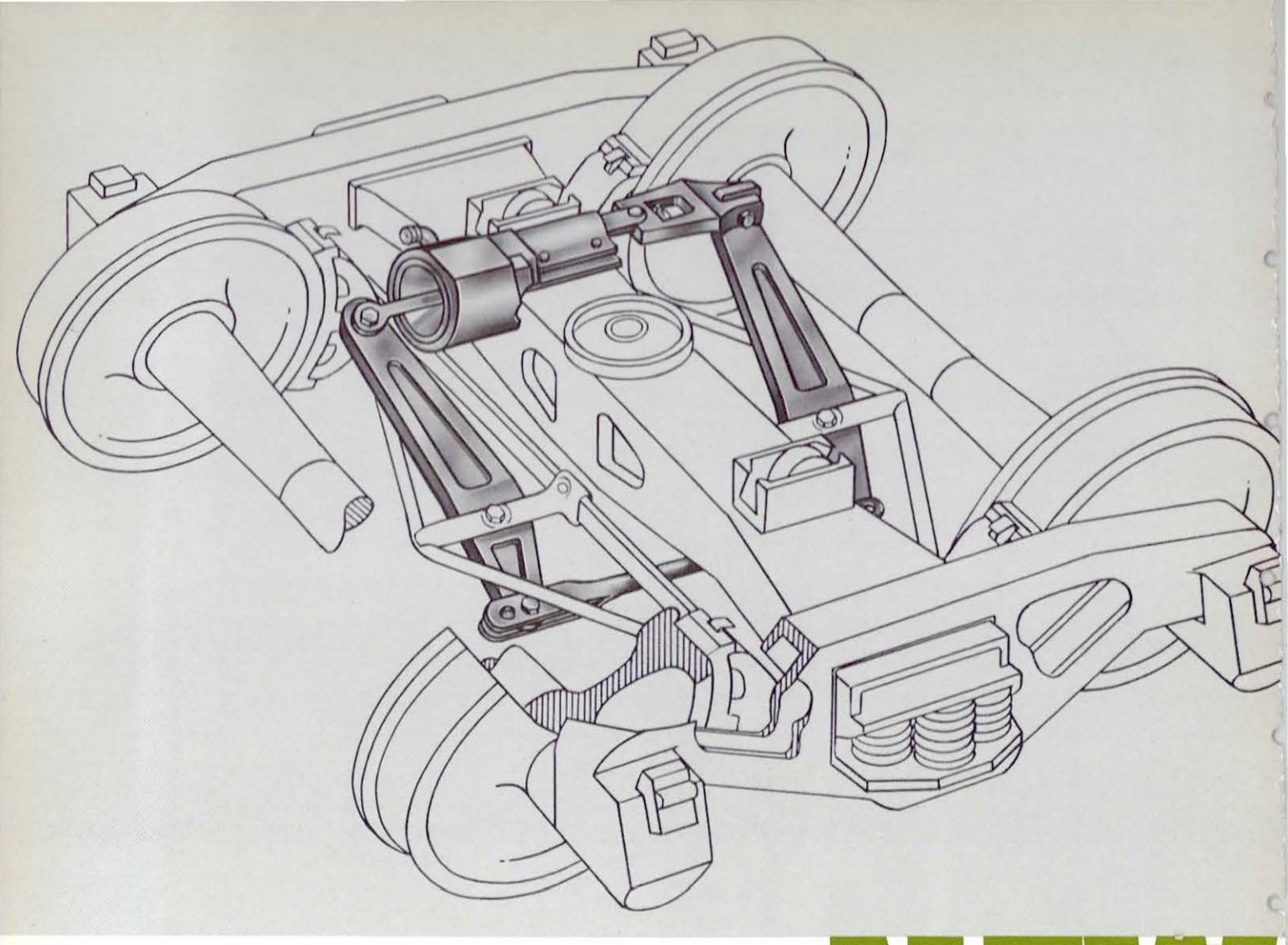
[A number of reprints of the article Mr. Whitman refers to have been ordered, and we understand copies are being made available to most national legislators.—EDITOR]

SEE WHAT'S NEW

in cutting operating costs and improving efficiency

FROM BRAKE SHOE

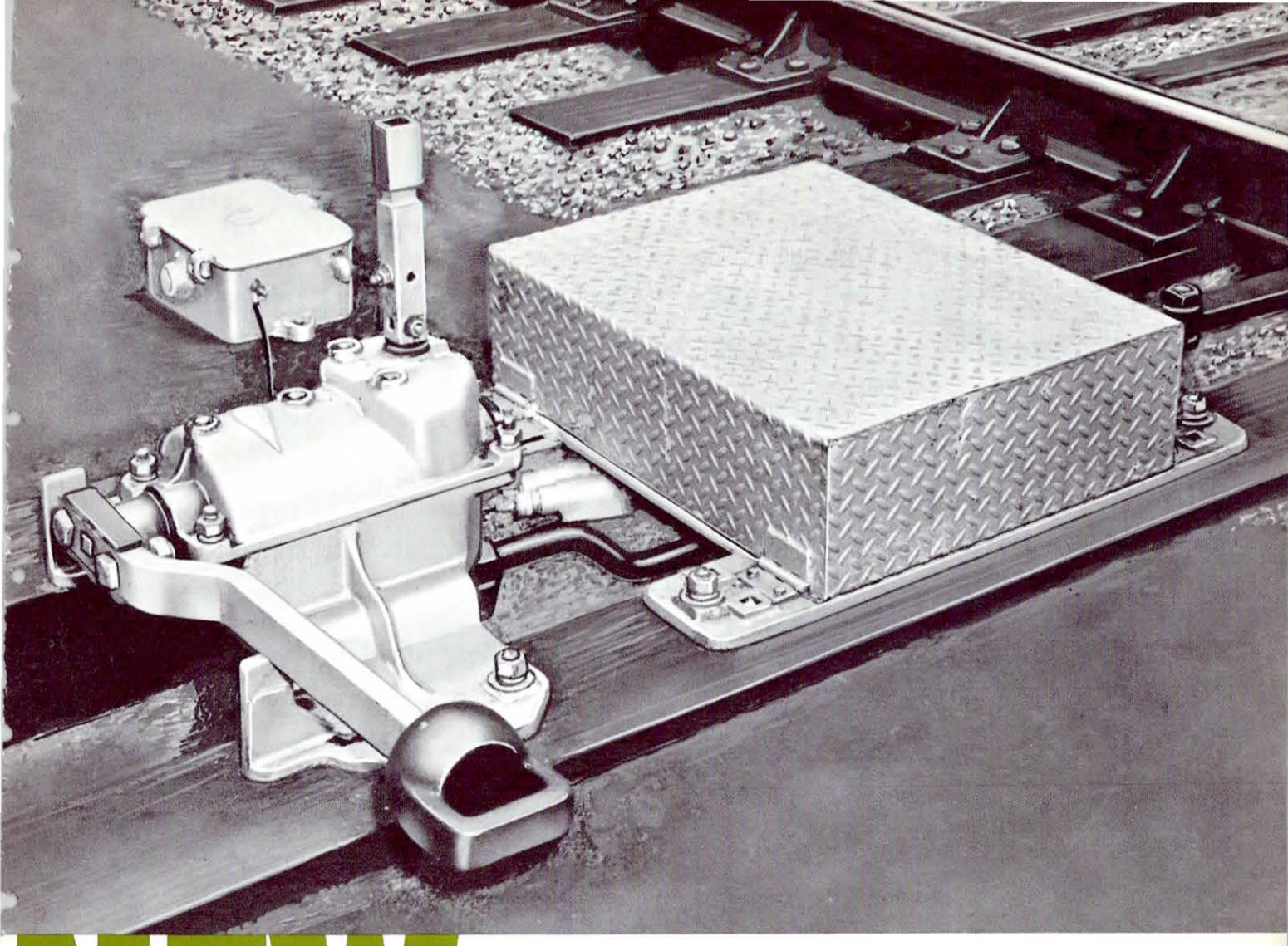
in Chicago



NEW

a simplified package brake for use with brake shoes of any type

This truck-mounted package braking system—presently undergoing test—is engineered to provide more effective, efficient braking on today's cars. The new package is also suitable for practically all freight cars now in service. Check its many cost-cutting advantages: (1) Uses standard, familiar components for greater dependability and economy; (2) Uses conventional design principles; (3) Simplified linkage system—one shock-protected cylinder, fewer parts, lower maintenance, (4) Easy to work with and service; (5) Can utilize brake shoes of any material or friction level. Examine the prototype at Booth 925, or see your local Brake Shoe representative.



NEW

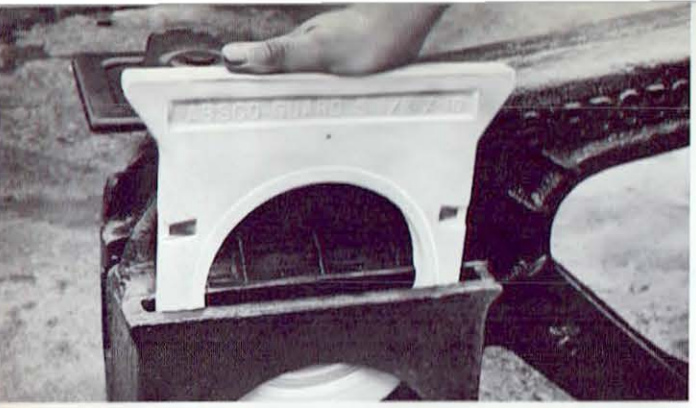
a low-cost hydraulic switch machine for push-button control of car direction

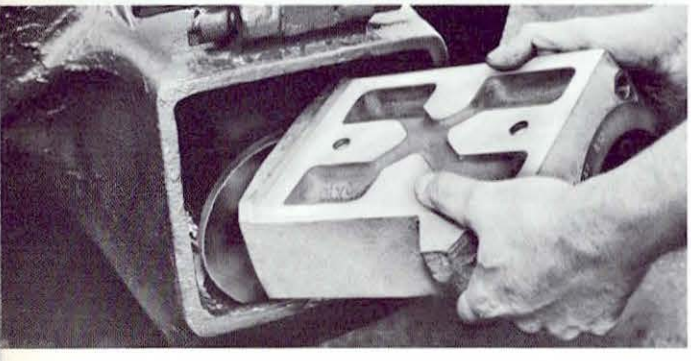
This is the new Racor® Hydraulic Switch Machine. Actuated by remote control, it speeds yard operation. Switch may be thrown by hand if desired, or by a trailing movement. Together with the new Racor Hydraulic Retarder, this hydraulic switch machine now brings push-button control of car direction and placement to yard operations. The efficiency and dependability of these two Racor developments have been proved at the Port of San Diego's busy new bulk unloading yard. Installed six months ago, they have contributed to the yard's record of high efficiency in car handling. Examine them both at Booth 925, or see your local Brake Shoe representative.

BOOTH 925

AMERICAN **Brake Shoe** COMPANY

AMERICAN RAILWAY PROGRESS EXPOSITION





SEE ALL THAT'S NEW

track specialties, bearings, wheels, brake shoes

FROM BRAKE SHOE AT BOOTH 925

McCormick Place, Chicago

See them all at Booth 925. In addition to the Package Brake, Hydraulic Retarder, and Hydraulic Switch Machine, see: Absco Positive Control Flat Back Bearing–which, with Absco Dust Guard and Absco Lubricating Pad, gives relief from the hot box problem; Southern Cast Steel Wheels–fully turnable for maximum life; Racor Mechanical Retarders–the standard in dependability and economy; and other Racor track specialties, including the Rail Lubricator, Tampease Manganese Self-Guarded Frog and Switch Stands.

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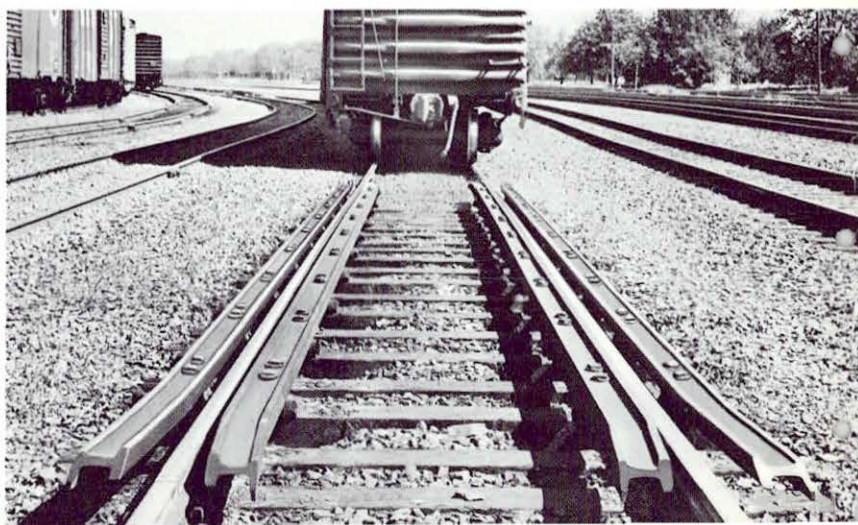


Revolution in M/W

The pursuit of economy has been the driving force behind the development of sophisticated new machines and methods that have revolutionized maintenance of way practices on the railroads. Evidence of this revolution will be concentrated in a relatively small area at the Chicago Exposition.

By Merwin H. Dick
Engineering Editor

For visitors inspecting the track-equipment displays at McCormick Place during the next week or so a word of advice is in order—beware of the fresh paint. Some of the machines are pilot models which only days ago were undergoing their final shakedown paces in the field. Hence, not much time was left to get them cleaned up and painted and ready for the exhibit floor. Both literally and figuratively there is a lot of fresh paint at the exhibit this year.

Those who have followed trends in the maintenance-of-way field over the years are fully aware of the revolution that has taken place in just about everything that is done and used in this field. To watch this revolution unfold over a period of time is one thing. To see it concentrated in an area of a few thousand square feet is quite another. Such a sight is bound to bring home to even the well-informed the depth and breadth of the changes that have taken place in M/W equipment and methods.

● **What's behind it.** The pursuit of economy has been the motivating force. The machines that were designed originally to meet this need were simple—sometimes even crude—devices intended to do a single job. Then, with the demand for economy greater than ever, the process of refinement set in. Machines became faster, more efficient. But possibilities for even further economies were seen by combining two, even three, machines into a single unit capable of performing several operations. Or additional attachments were devised that made it possible to convert a machine into a multi-purpose unit.

Now the equipment engineers were on the road to automation. They were devising machines that would, within limits, make decisions and act in accordance with them. This means that the most advanced forms of technology were being adapted and applied to M/W machines. It means, further, that some of the devices being used in M/W work are about as sophisticated as any that can be found anywhere.

● **Automated tampers.** Take the automated production tamper as an example. Five of them, offered by as many different manufacturers, will be found on display at McCormick Place. In its most advanced state the production tamper of today, when equipped to operate as an automatic machine, is capable of "sighting" the track, raising it as desired to eliminate irregularities in surface, at the same time maintaining proper cross-level, and tamping the ballast under the ties—and all this with a single operator at the controls. In some cases he doesn't do much more than start and stop the machine. Generally, the only additional manpower required for the entire operation is confined to the few men needed to feed ballast to the tamping bars.

A study of the automated production tampers on view at the exhibit will bring out the fact that in each case the tamper is preceded by a device which, operating on the track ahead of the machine, provides the "intelligence" which ultimately controls the operation of the track jacks and the tamping tools. Three of the arrangements involve the use of a self-propelled front buggy fitted with projectors that send beams of one kind or another back to receivers or sensors placed on the rear of the tamper. The track jacks, placed at the front of the machine, continue raising the track until a shadowboard or other device is brought into the desired relationship with the beam.

Another of the automated surfacing systems involves the use of two beam sections which are pushed ahead of the tamper on two four-wheel carts. These two beams are coupled to a third beam section which, mounted on the tamper, serves as the reference beam. Linear potentiometers are used between the beam sections to provide the necessary resistance variations required to regulate the operation of the jacks.

In the fifth system an arm made of tubular members projects about 32 feet ahead of the tamper and terminates in a four-wheel cart that provides a reference plane for controlling the operation of the jacks and tamping heads. This system uses hydro-mechanical devices for achieving automatic operation.

● **Jacks for tampers.** Visitors at the exhibit will find other interesting developments involving tampers. In most of the automated tampers the jacks are incorporated in the tamping machine. Recently two manufacturers have intro-

duced automated jacking devices that are coupled to, but do not form part of, the tampers. The availability of these devices offers the possibility of automating earlier models of tampers that were built without jacks.

At least two manufacturers are exhibiting what might be called "in-between" production tampers. These have tamping heads identical to those used on the large production tampers, but in other respects the machines are so built as to fall into a lower price range. They are intended to fill the need for a production tamper for out-of-face work on secondary mains and branch lines, for spotting up low joints and for tamping work behind tie-renewal gangs.

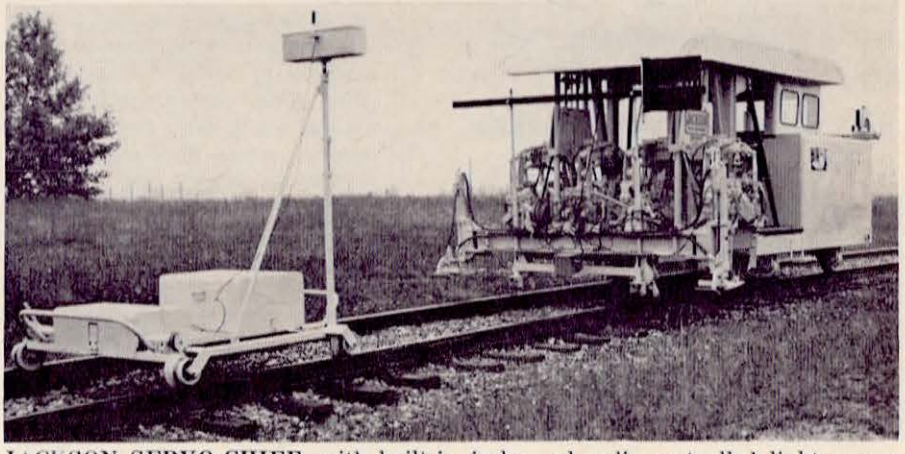
Track men inspecting the displays will also be interested in the several machines on exhibit that are designed especially for use in tamping through turnouts. These machines provide for lateral movement of the workheads and are otherwise designed to permit the tamping of ties around frogs and switch points and at other places in turnouts that are inaccessible to the conventional production tampers.

• **Combination machines.** Track men cruising the exhibit booths are certain to find of particular interest the machines, some of them brand new, that are designed to perform several operations. Two companies are exhibiting for the first time this year combination machines that not only scarify the tie bed from which an old tie has been removed, but also insert a new tie. Another manufacturer is showing a newly developed machine for use in rail-laying work, which not only pre-gauges the tie plates but also sweeps them and provides power for towing the gauging machine.

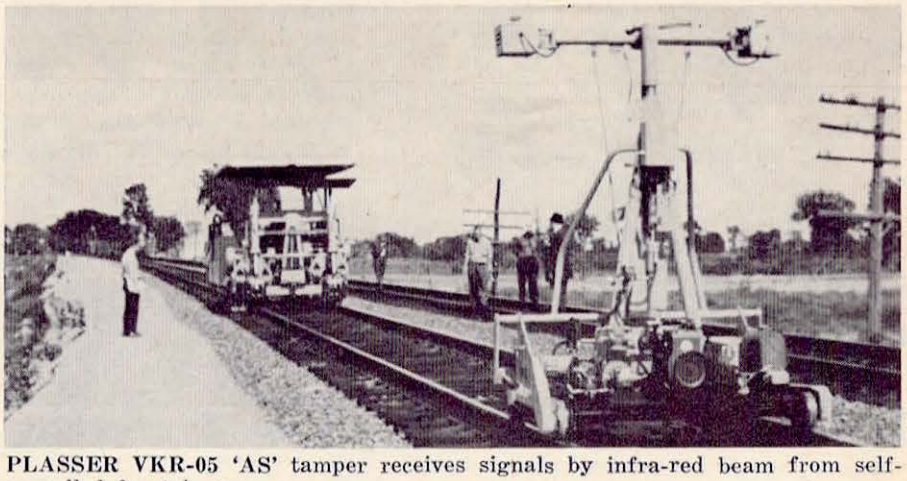
An example of the combination machines on display is a mechanical spiker that not only drives four spikes simultaneously but also nips up the ties. Another feature of this machine is that it feeds spikes automatically to the hammers, obviating the need for setting them by hand.

Anyone with problems having to do with the replacement or cleaning of ballast is certain to find at the exhibit just what he needs to solve his particular problem. Some of the machines in this category are too large to be accommodated in any exhibit hall, no matter how large it may be, but literature is available. They include several makes of machines designed to undercut the track. At least two of these machines are designed also to clean the ballast and return it to the skeletonized track behind the machine. One manufacturer offers a device that not only raises the track on the existing ballast but also ejects ties marked for renewal.

Equipment displays reflect progress in M/W field



JACKSON SERVO-CHIEF, with built-in jacks and radio-controlled light-source buggy, has just been introduced.

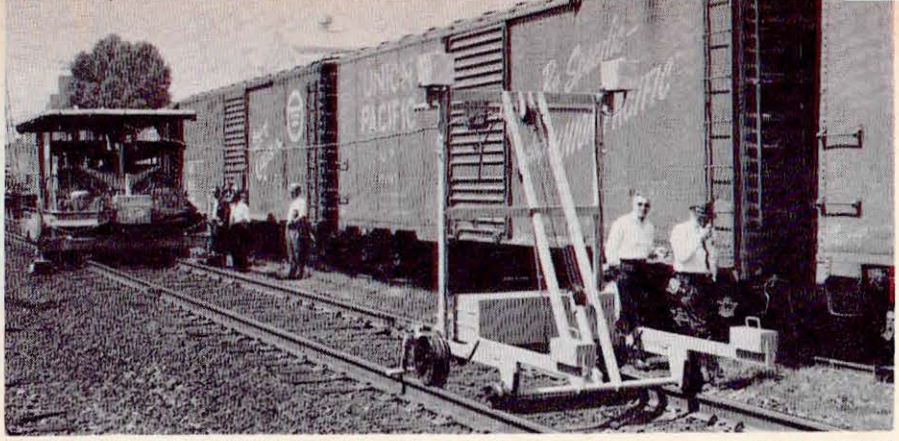


PLASSER VKR-05 'AS' tamper receives signals by infra-red beam from self-propelled front buggy.

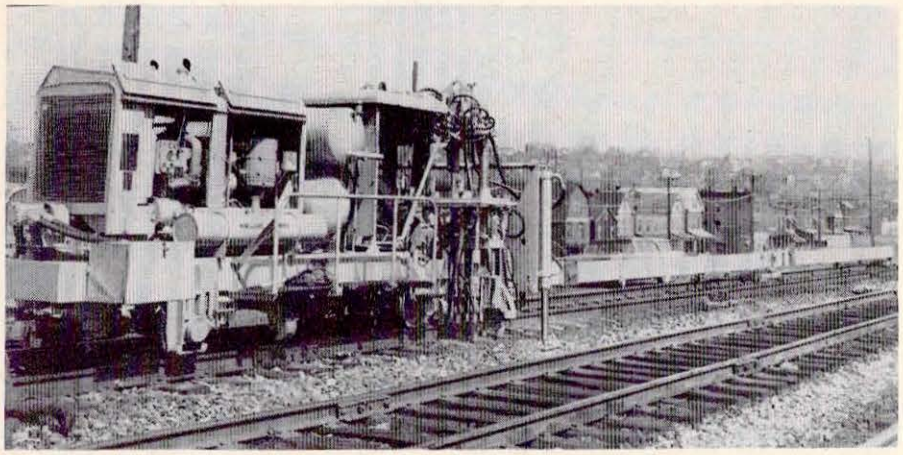
• **Track analyzers.** More and more, track men are finding it necessary to have more exact knowledge of the condition of their tracks than can be obtained merely by riding over them. Several types of units designed to provide such information will be found on display, including at least one that furnishes a permanent record of the surface and alignment of both rails, superelevation, cross-level, variations in gauge and skew or warp. Another manufacturer will be exhibiting a trailer-type unit, which when towed over the track at 10 to 15 miles an hour, provides a visual record of variations in gauge and cross-level.

• **On-track, off-track.** Observers at the exhibits will find that the supply companies are constantly broadening their efforts to provide equipment that may be operated both on and off the track. Conversion kits that make it possible to apply flanged wheels to almost any kind of rubber-tired vehicle have been available for some time, and, of course, will be found in several booths. In addition, the exhibits abound in specialized types of equipment, such as rubber-tired cranes, that have been provided with flanged-wheel attachments.

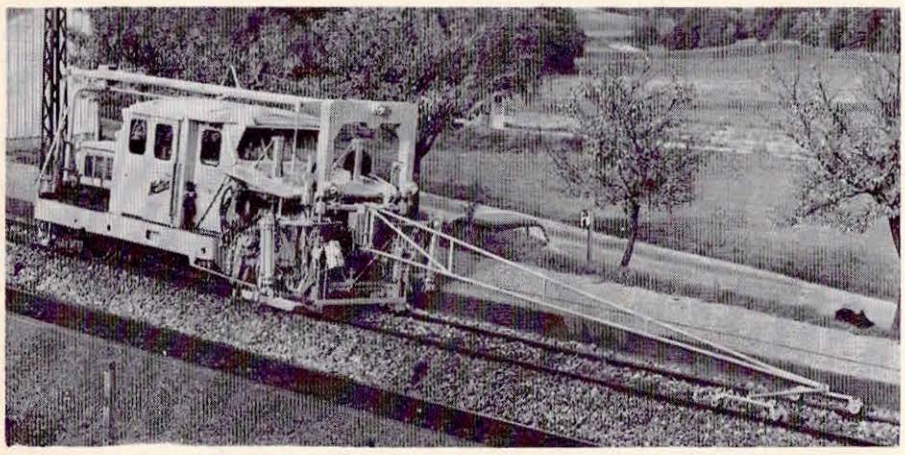
This year at least three new types of



AUTOJACK-ELECTROMATIC tamper of Tamper Inc. uses newly developed "Delta" control system.



McWILLIAMS tamper is controlled by devices incorporated in two beam sections pushed ahead of machine.



MATISA SPEEDTAMPER '70' gets control signals from four-wheel cart pushed ahead by tubular arm.

on-track, off-track units are being shown. One of these consists basically of a rubber-tired vehicle designed to operate over rough terrain, and which can carry up to four rails, plus the necessary track materials. To increase its versatility this unit may be fitted with such attachments as brush cutters, winches, snow plows, welding equipment and ballast wings and plows.

A somewhat similar unit consists of a fiber-glass or aluminum cab capable of accommodating six men, which is mounted on a truck chassis. This unit can be furnished as a complete package equipped with a variety of power tools, welders, generators and other devices. Another manufacturer is exhibiting a newly developed two-wheel, rubber-tired trailer fitted with flanged wheels that are lowered with a hand-operated hydraulic pump. A one-ton hoist on the unit makes it possible, says the manufacturer, for two men to load a standard length of rail on the trailer.

● **Effect of long rails.** As the foot-sore observer makes his way from booth to booth he will find evidence almost everywhere of how the increasing use of butt-welded rail is affecting M/W technology. Nowhere is this more pronounced than in a new "package" of equipment that makes it possible to install simultaneously two strings of long rails to replace the existing jointed track. Too large and extensive to be shown in its entirety except in the form of a moving picture, this package consists of more than a dozen machines, most of which are designed especially for this operation.

What these machines do is to unload the long rails to a specified gauge on the ties between the existing rails, and to use these rails for the operation of equipment that removes the old rails to a position on the tie ends and prepares the track for receiving the new rails at standard gauge. Machines operating on the old rails at the wide gauge then shift the long rails into position on the tie plates. Machines operating on the new rails at standard gauge finish the job.

● **Cutting, drillng long rails.** Other machines and devices are on display that are designed to solve problems created by the use of long rails. One of these is the need for installing insulated joints in the welded rails. Two manufacturers will be exhibiting machines designed to cut the rails and drill holes for the joint bolts, using multiple-spindle drills. For separating the ends of the cut rails to permit installation of the insulating end posts, one manufacturer has developed and is exhibiting a hydraulically operated rail expander. This same company is also showing a hydraulic device for pulling rails together where pull-aparts have occurred. This device may easily be converted into a rail expander.

To take full advantage of the economy features of welded rails at least some railroads are anxious to eliminate the joint effect at points where the long rails join each other. The alert observer will find that several manufacturers are offering means for overcoming this problem. One of these involves the use of butt-welds made in the field by variations of the thermit process.

● **'Glued joints.'** Another company is featuring in its exhibit a method of "gluing" the joint bars between long rails so that the rail ends are "frozen" in the tight position. An epoxy compound is used for this purpose. To be found on exhibit in the same booth is a complete line of epoxy adhesives, floorings, paints and coatings designed especially for railroad use.

Despite the widespread use of continuous rail most existing track still has jointed rails. To an increasing extent railroads are cropping the ends from old rails in the field and applying new joints after the ends have been pulled together. For speeding up the operations involved in this practice a number of exhibitors are displaying

GANGWAGON, developed by W. T. Cox Co., is one of many vehicles equipped to operate both on and off the track.

several specialized machines. These include high-speed saws and multiple-spindle drills. Also, fresh from final tests in the field, there is an hydraulically operated oxy-acetylene rail-cutting machine which may be used in the field or elsewhere.

• **For weed control.** Almost everywhere one goes in the exhibit hall he will find evidence of the battle being fought by the railroads to keep vegetation under control on their properties. Manufacturers of weed-killing chemicals and the service companies that apply them are in the midst of this battle, and will be present at the exhibition to display their products and to illustrate the results being obtained through their use. Whether the problem involves the use of a soil sterilant, a selective herbicide or a brush killer, the observer will find the answer in these booths. Increasingly, weed-killer people are taking the initiative in developing and perfecting equipment for applying herbicides, and at least one of these companies will be exhibiting an off-track machine for applying a granular material.

Plenty of mechanical equipment will also be found on display for handling the vegetation problem. Such machines as brush cutters and weed mowers will be seen. Among these will be a brand new brush and weed cutter that has been made available as an attachment for a ballast regulator. Another company will be showing a new self-propelled on-track weed mower. Still another will be showing a mobile brush cutter in which it has recently incorporated some important improvements.

• **Refinement goes on.** Many of the machines to be seen at the exhibit are improved versions of units that have been on the market for some time. Thus at one booth, the observer will find a ballast equalizer in which the manufacturer has made some important improvements, including a hydraulically driven sweeper and a heavy-duty rooter tooth for breaking up cemented ballast at the ends of ties. In another booth he will find an improved spot tamper, and a derrick car that is now self-propelled.

A new model ballast distributor will be found in still another booth, which, according to the manufacturer, incorporates important improvements over the previous model. This latter manufacturer is showing a lining machine in which, among other machines, the number of operating levers has been reduced 50%. He will, in addition, be exhibiting an improved version of his multiple-spindle bolting machine which as a result is now said to be 43% faster than before.

Even rail and flange lubricators have not escaped the searching eyes of engineers bent on making improvements. For example, one of the lubricators on display will feature a new valve which is adjustable to obtain a consistent flow of grease to the rail regardless of the speed of traffic or the consistency of the grease.

• **Hand tools, too.** Despite the prominence of powered machinery at the show, hand-operated devices are present and indications are that their manufacturers are alert to the desirability for improving them as the need for betterment is determined by experience in the field. For example, the manufacturer of a line of aluminum track jacks reports that the jacks he will have on display have been improved in some important respects. Primarily the purpose of the improvements has been to strengthen the jacks against breakage in use and to make them easier to handle. These improvements incidentally, were designed in accordance with recommendations made by a committee composed of railroad men.

• **Other track equipment.** There will be many other machines and devices on display the interested observer will not want to overlook. If he is a track man he will want to inspect the various machines that have been developed for cutting ties in pieces to simplify their removal from the track. He will wish to examine a new type of rail detector car that is just coming into the picture. If his forces are still applying rail anchors by hand he will undoubtedly budget some time to look at and compare the various rail anchor applicators that will be available for inspection. Time should also be reserved for examining the latest in such equipment as rail grinders and drills, tie handlers, bumping posts and even motor cars and push cars. He will also wish to inspect the several makes of mechanical track liners that will be on view and to compare their relative advantages.

All the more common types of rail anchors will be on display, and track men will want to see these exhibits and to take the opportunity, through conversations with the representatives in attendance, to bring themselves up to date on the latest practices in the use of these important devices. In making their rounds among these booths they will find that a new type of two-way anchor has been introduced.

The substitute tie always commands attention among track men, and they will find two types available for their inspection, one of prestressed concrete and the other made of steel.

Earthmoving equipment is an important adjunct to maintenance-of-way operations. Two manufacturers of such equipment will be showing those of their units that they consider most adaptable to railroad use. And one of these booths will contain a crawler-type machine especially rigged for use in clearing derailed equipment. The spreader-ditcher, the workhorse of on-track material-handling units, will also be represented.

• **For B&B men.** Railroad men with responsibilities having to do with bridges and buildings will find a great deal at the exhibition to interest them. They might want to start with the booths exhibiting preservative coatings. If they have timber trestles that are on the budget for renewal they might wish to spend some time at a booth that features a process for prolonging the service lives of such structures by applying preservative treatment in place. They will unquestionably be interested in an exhibit of high-tensile bolts for fabricating steel structures. And an exhibit featuring the latest in drainage techniques and equipment should not be neglected.

Equipment on display of particular interest to bridge men include diesel pile hammers, various types of power tools, including hydraulically driven units, and several exhibits of spray equipment for applying paints and preservative coatings.

The important thing for all visitors to remember is that the exhibits are being presented at considerable expense to the manufacturers. The observer can reciprocate by making a thorough and analytical examination of all pertinent displays. But don't get too close to the fresh paint.

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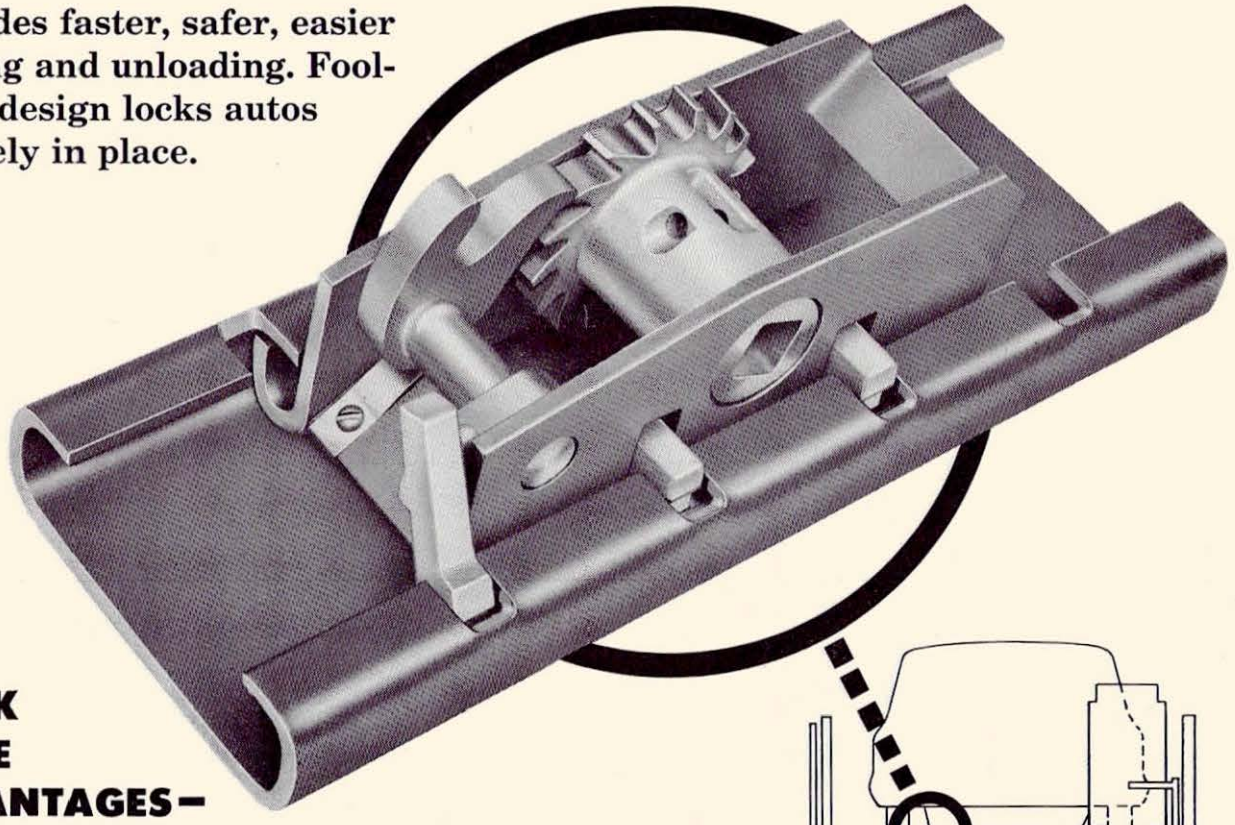

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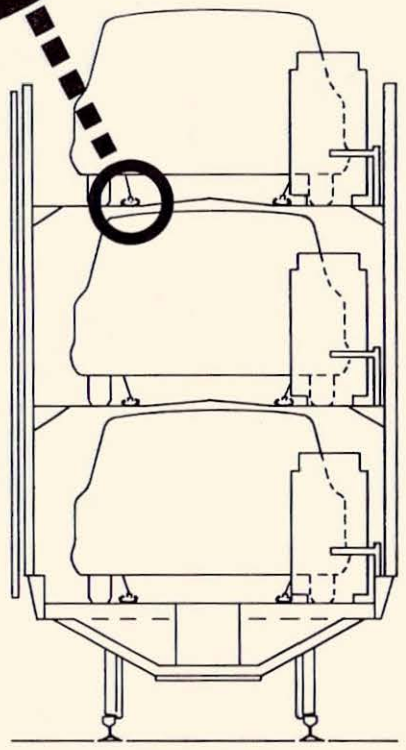

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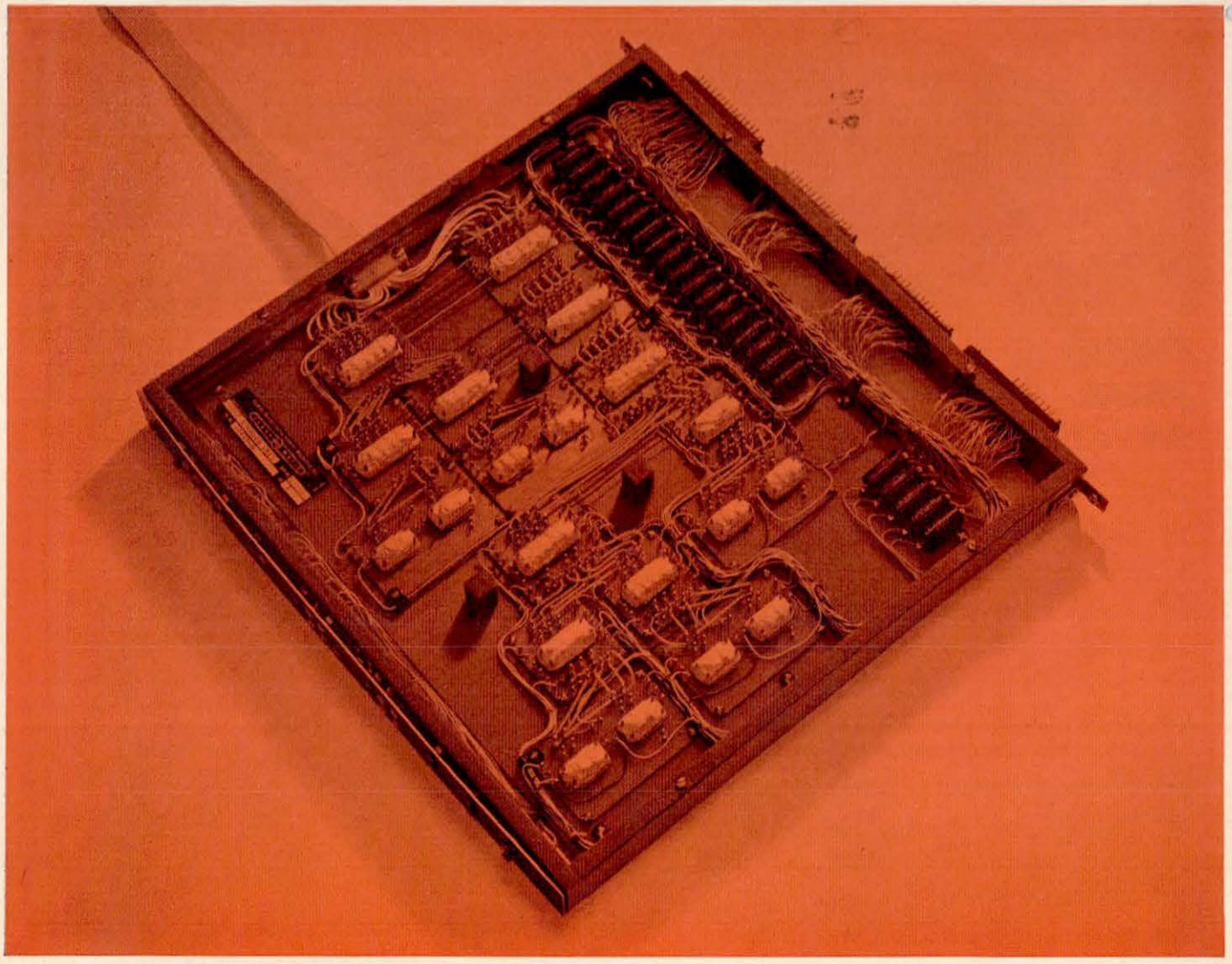

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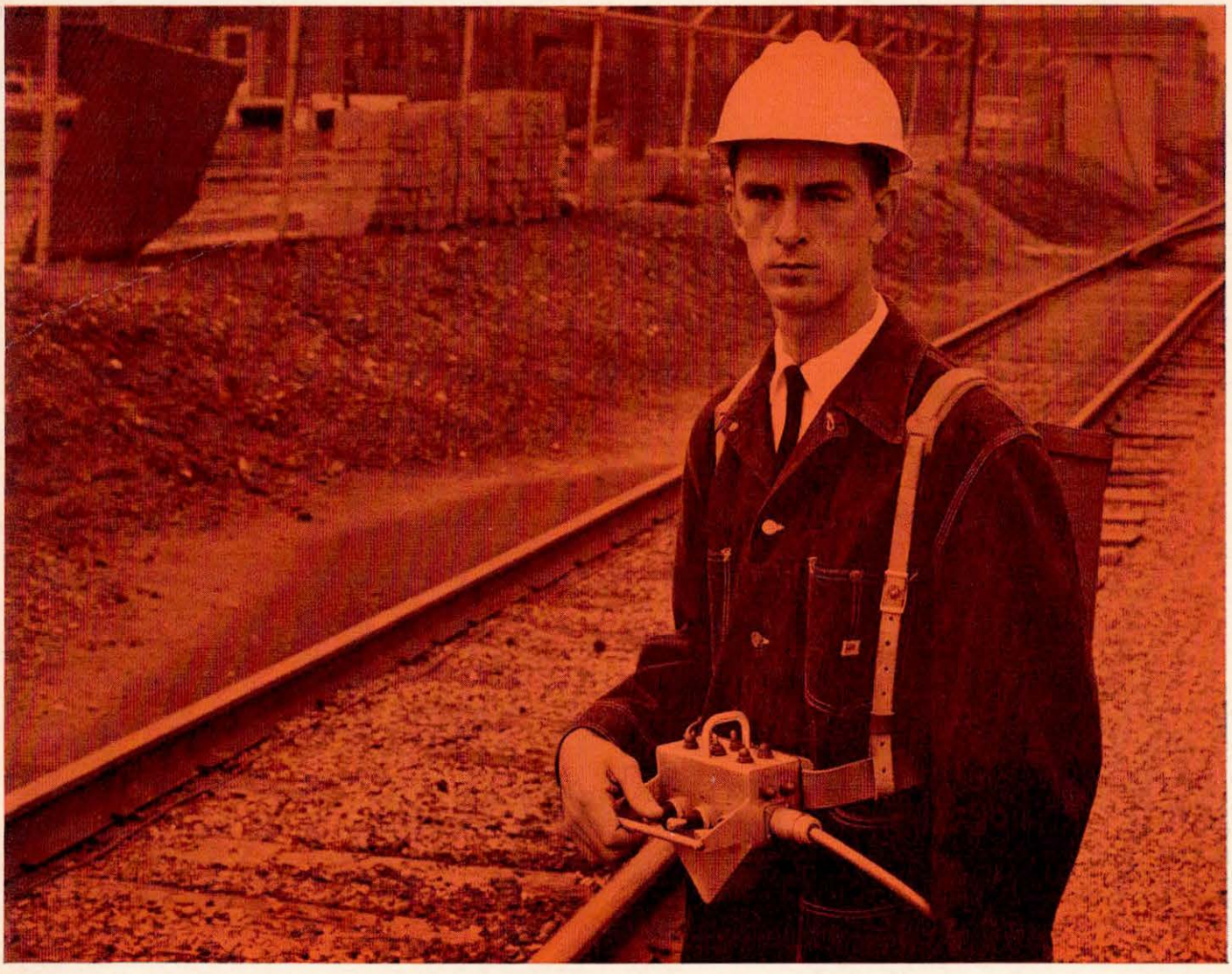

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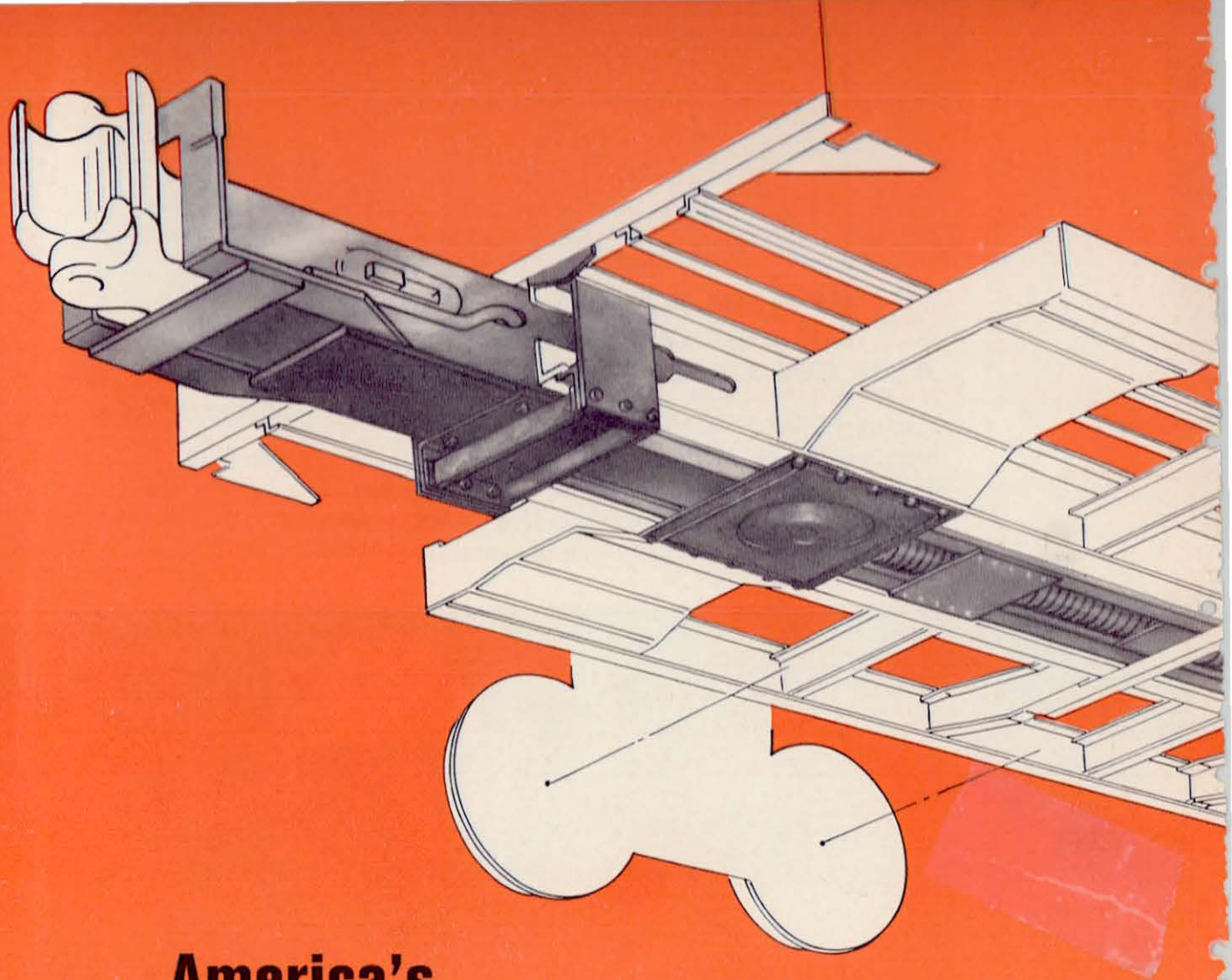

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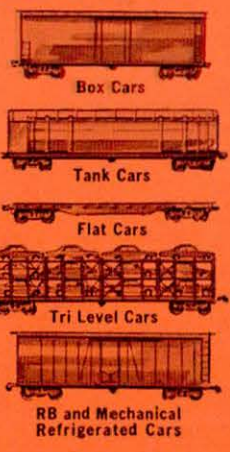
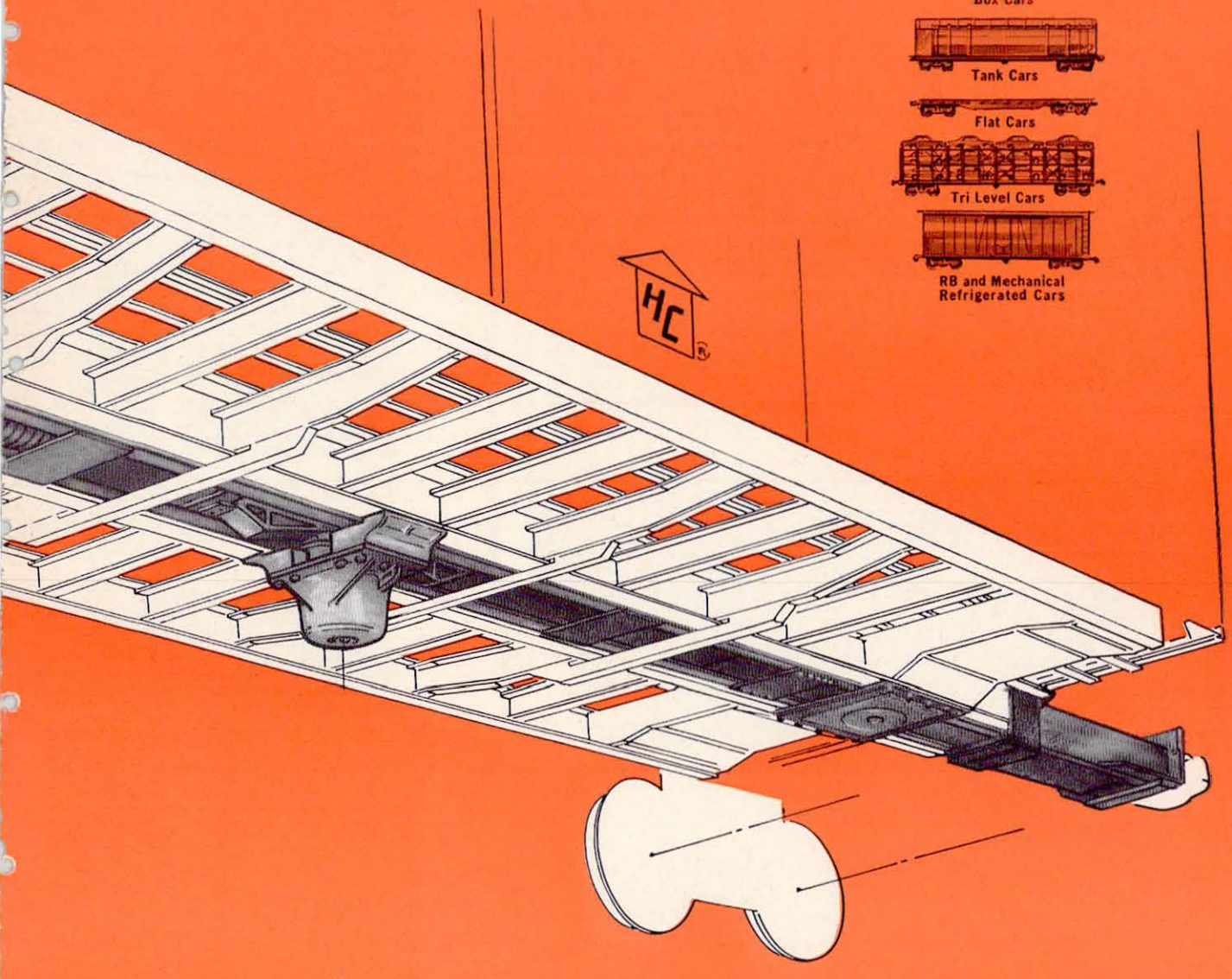
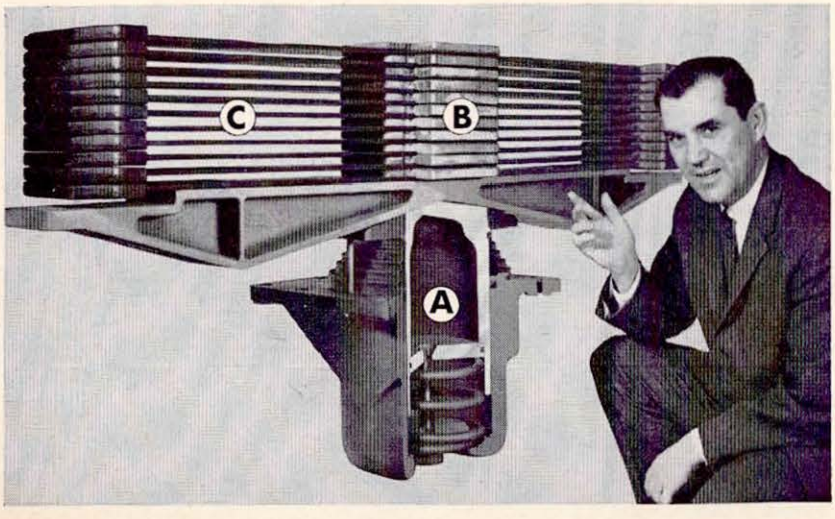
Hydra-Cushion equipment is proving its superior performance on all types of cars.



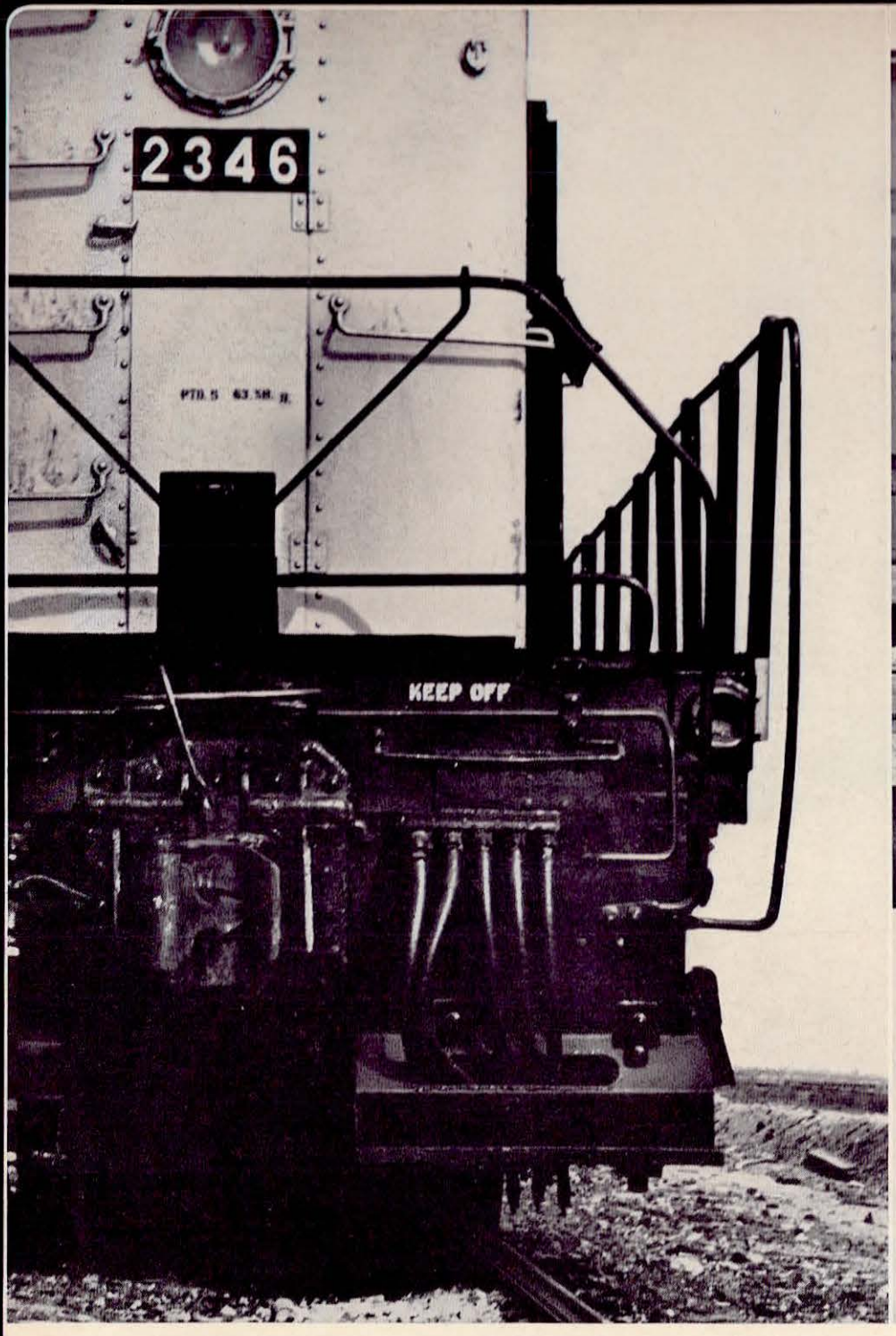


ON EXISTING CARS, TOO!



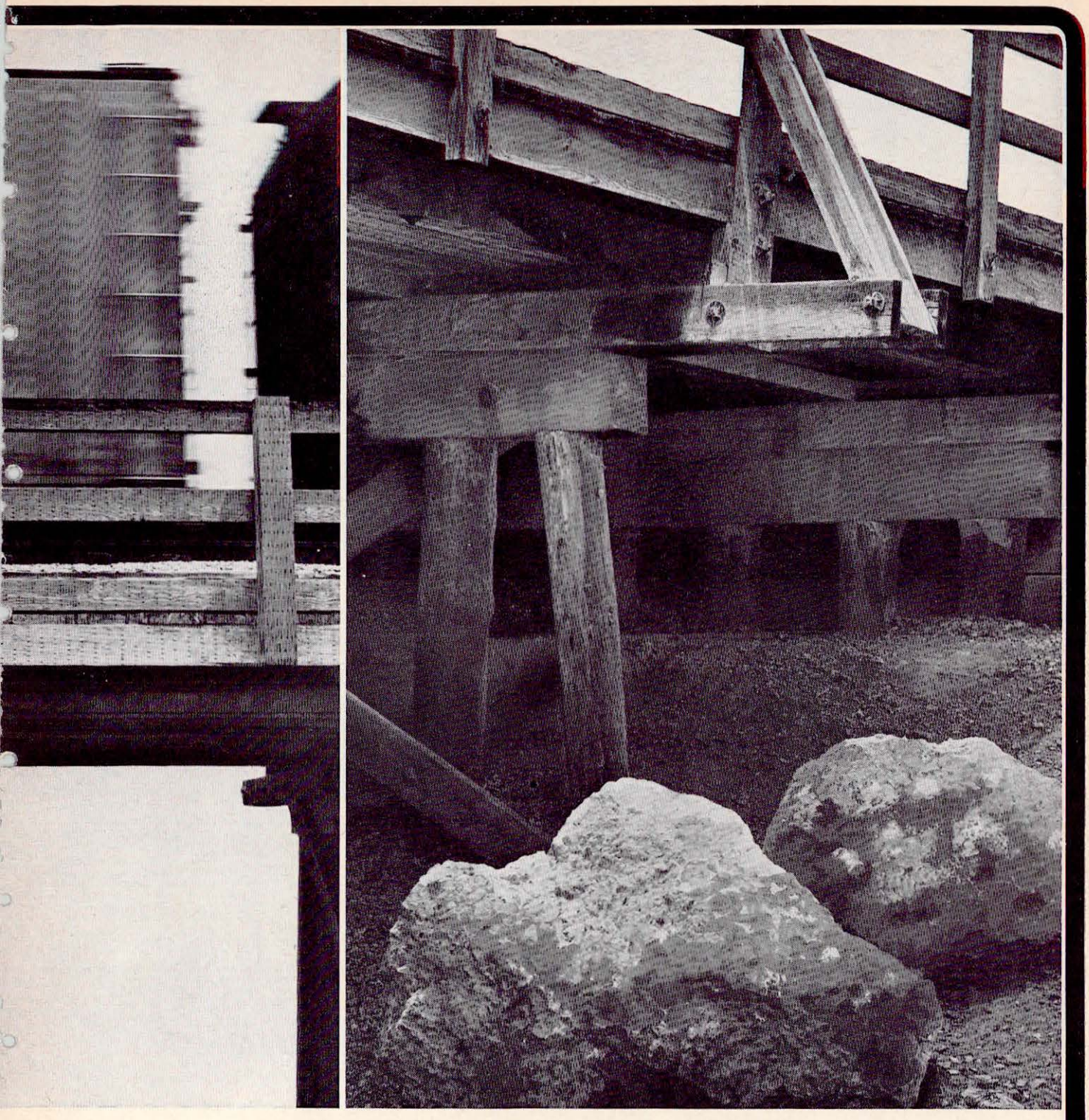
THIS COMBINATION MAKES THE BIG DIFFERENCE IN CAR CUSHIONING

Other modern cushioning devices rely on high-pressure hydraulics. The unique Hydra-Cushion system combines a low-pressure hydraulic unit (A) with a set of fixed (B) and movable (C) friction plates. Upon impact, the moving sill actuates the hydraulic unit which, in turn, exerts increasing pressure upon the friction plates to achieve powerful braking action. The impact force is so reduced that damage-causing shock is eliminated. There is no jolt of recoil. Springs within the sill return it gently to normal position.



We've been working on the railroad: keeping "bugs" out of diesel fuel...stopping fire cold on bridges...and killing hard-to-reach weeds. Our team of trained technicians--**THE FORMULA FINDERS** at U.S. Borax--travel to the trouble and work with railroads until the problems are solved. For example, to prevent clogging of diesel filters by bacteria feeding on the fuel itself, The Formula Finders recommended Biobor,* a special new borate formula. A small amount of Biobor keeps a tankful of diesel fuel running clean! Another U.S. Borax formula, Firebrake®-T, makes

*Trademark of U.S. Borax & Chemical Corporation



bridge and tunnel timbers fire-retardant permanently. And to keep any area free of unwanted vegetation, The Formula Finders working with 16 different soil sterilants, will recommend the one best suited to your particular problem. With the greatest variety of borates and soil sterilants...the widest technical experience and finest laboratories, The Formula Finders are ready to work with you...to help cut your costs and increase your profit.

FOR MORE INFORMATION VISIT THE U.S. BORAX EXHIBIT AT THE A.R.P.E.

U.S. BORAX

3075 Wilshire Blvd., Los Angeles 5, Calif.
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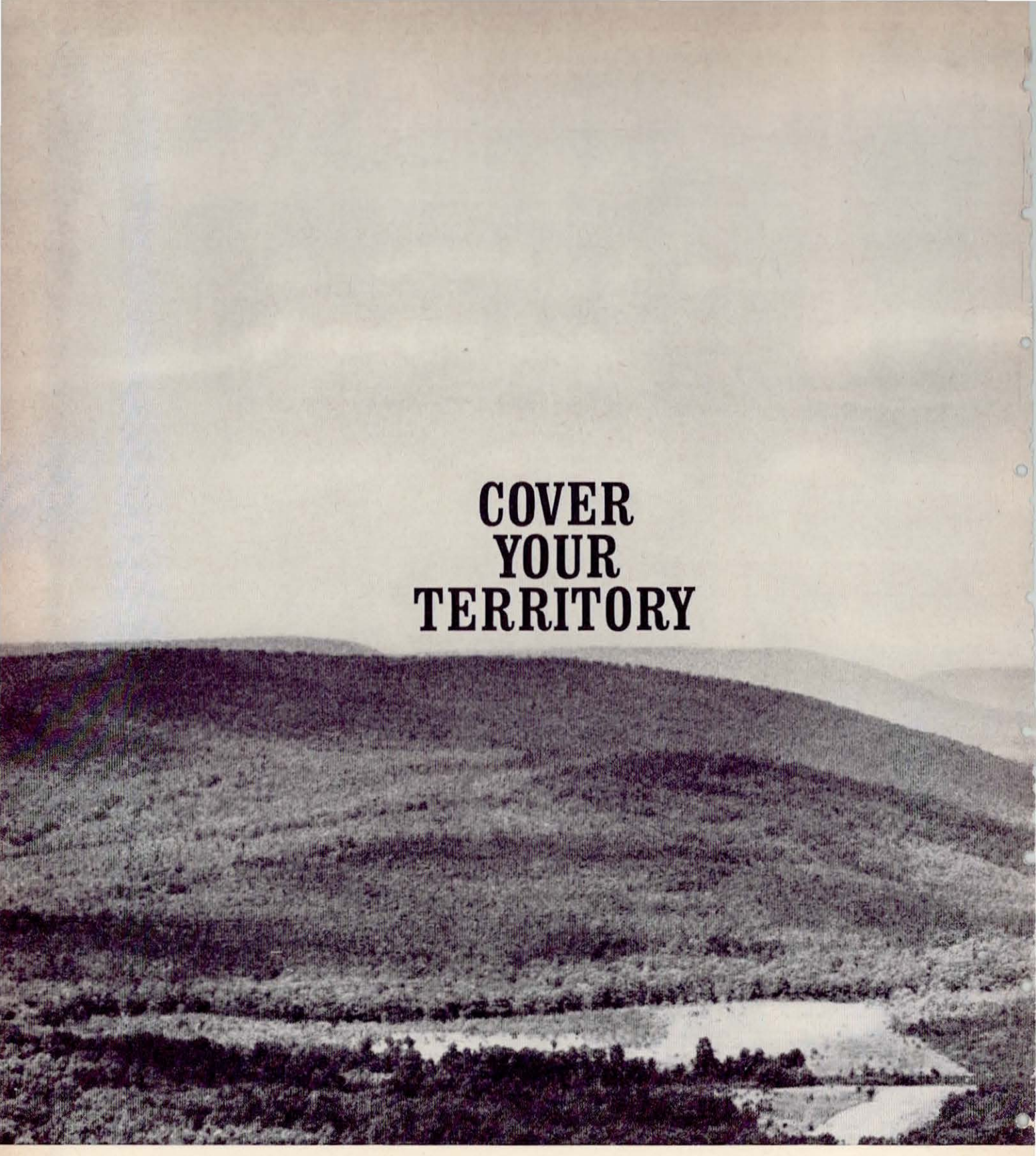


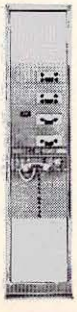
Keep in touch with microwave—from Graybar, specialist in communications! Whether you want to maintain contact with service crews... dispatch fleets... control distant equipment or operate any other communications system—call Graybar. A good example: the new Lynch LH700 Microwave unit combined with the Lynch B910A Multiplexing unit. Here's all solid-state reliability... a-c or battery operation—a complete space-saving modular microwave system that permits 2-way voice or data communications over from 1 to as many as 600 circuits. You simply "plug in" the capacity you need. With other Lynch systems, you can utilize existing power line or other circuits for your communications. □ Also from Graybar: complete

lines of auxiliary equipment, such as data sets, telephones, dial switchboards, wire and cable. Leasing and financing plans are available if you wish. Remember Graybar for every communications need—up to complete turnkey operations! Wherever you are...whatever you need—call Graybar—for everything. Graybar Electric Company, Inc.: local service—nationwide—in 140 principal cities.

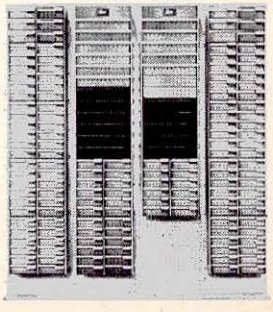
GraybaR

772

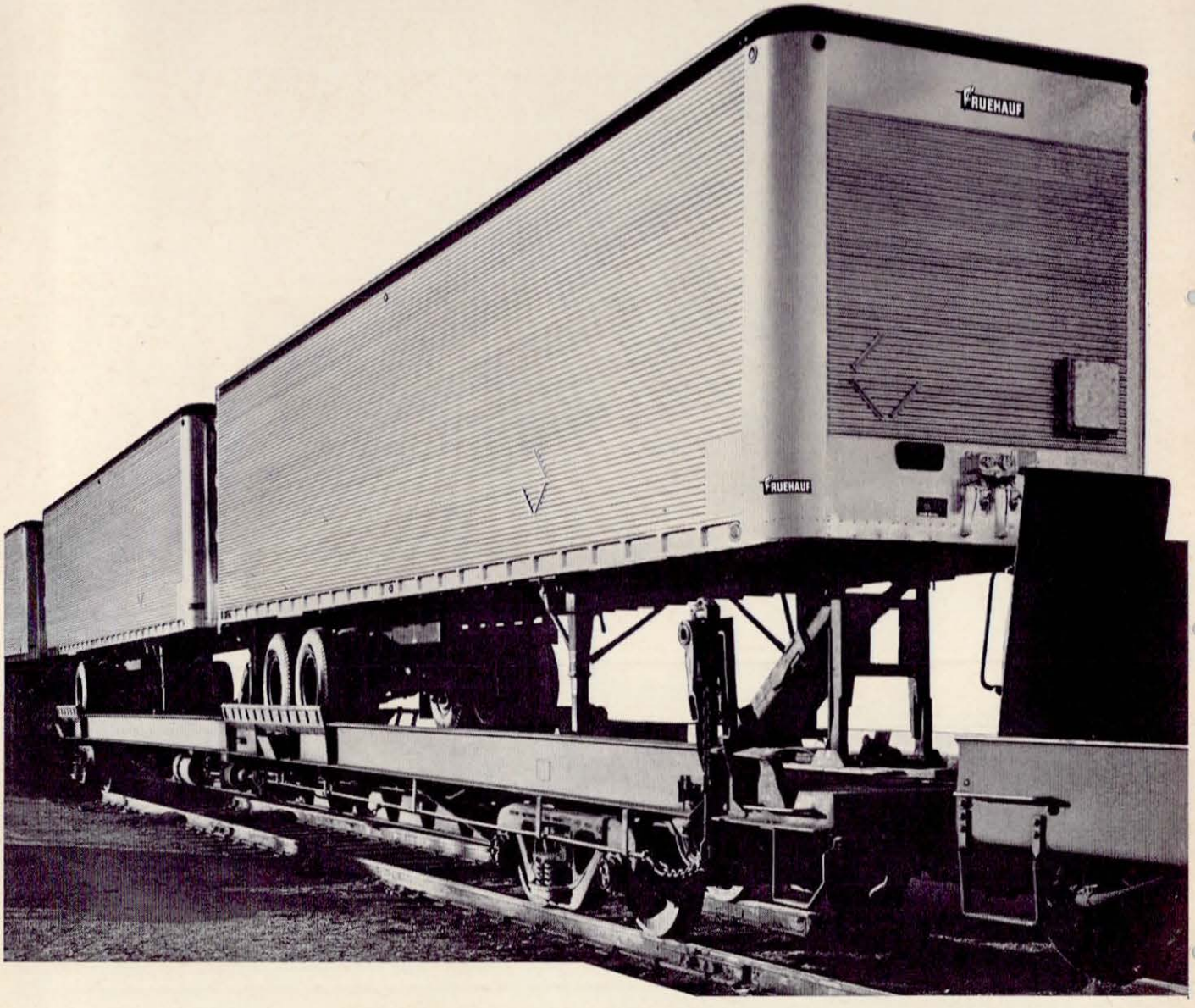
New LH700
microwave unit



B910A
multiplexing unit



FOR SAFE, PROFITABLE PIGGYBACK USE TOUGH, RELIABLE FRUEHAUF



Fruehauf Volume ☆Vans are made to order for piggyback operation. They're strong, tightly sealed against the weather, and they give you greater cube. They feature standardized, interchangeable parts . . . and they're backed by the trailer industry's only nation-wide service facilities!

CHECK THESE FRUEHAUF PIGGYBACK FEATURES

- Special "piggyback front end"—with 8 full-height, heat-treated, heavy-duty steel posts for unmatched strength and safety.
- Wider, flatter coupler adds capacity, stanchion strength. King pin is mounted in a sturdy casting. Wide surface box members permit coupling from sharp angles.
- Stronger, lighter, two-speed square leg supports are self-lubricated—easier to operate and maintain.
- One-piece rear end—door posts, header, rear crossmember, bumper, light boxes and reinforcements are all welded into a single steel structure of exceptional strength and rigidity. Exclusive Antirax rear door latches* stabilize entire rear end when operating rear into the wind.
- One-piece, leak-proof aluminum roof—bonded to roof bows—gives positive cargo protection and extra strength.
- Complete interchangeability of steel and aluminum components.
- One-piece plymetal rear doors that seal tightly against wind, dirt and moisture.

*Fruehauf Patent Pending

PERFORMANCE TRAILERS!

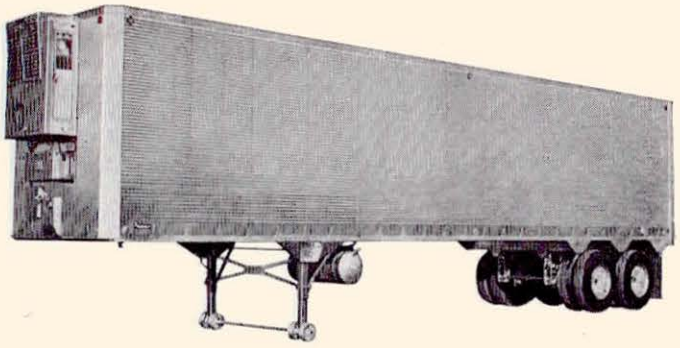
Tough, reliable Fruehauf Trailers, in a wide range of types and sizes, are setting new performance records for piggybackers all over America.

Engineered and built to withstand extreme stress and strain under full piggyback loads year after year, Fruehauf Trailers give you all the features required for the most efficient piggybacking—in addition to an extra margin of strength and stamina.

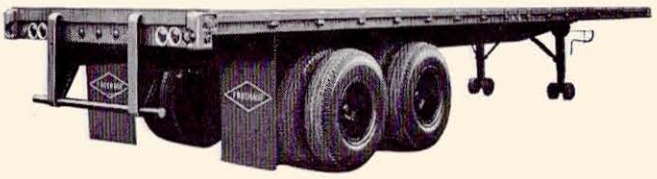
They give you greater cube; all-weather, all-temperature cargo protection; greater resistance to coupling impacts and braking forces; latest tie-down equipment; full range of piggyback options; and they're available in steel, stainless steel, and weight-saving aluminum models. Shown here are some of the most popular piggyback types—for cargoes of all kinds.

Your Fruehauf representative will give you all the reasons why you should piggyback with Fruehauf Trailers.

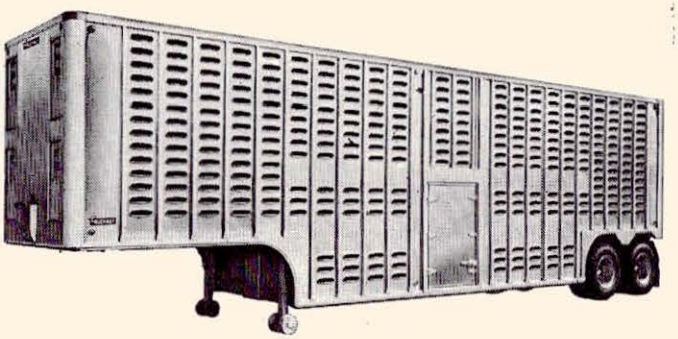
FRUEHAUF TRAILER DIVISION • FRUEHAUF CORPORATION
10953 Harper Avenue • Detroit 32, Michigan



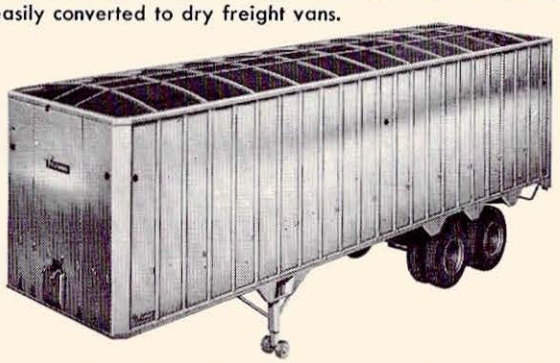
The new Fruehauf Seal-Temp Volume☆Van Reefer gives piggybackers positive temperature control, higher cube, lower operating costs! 3″ of Fruehauf's full foam insulation gives as much protection as 6″ of old-fashioned insulation, hence inside cube is increased as much as 10%.



Fruehauf heavy-duty steel "Workhorse" Platform hauls up to 50,000 lbs. . . . a 26% increase in load-to-weight ratio. Also available with sturdy, lightweight aluminum racks for fast conversion to an enclosed Trailer.



Fruehauf Livestock Volume☆Vans provide the flexibility of double-decking or triple-decking for top payloads. Also available in straight frame design. All models can be quickly and easily converted to dry freight vans.



Fruehauf Open Top Volume☆Vans are available in aluminum, steel, or aluminum and steel. Feature rugged steel cap rails for greater sidewall rigidity and top loading. A top performer for hauling general freight of all types not requiring the protection of a fully-enclosed body.

TESTS PROVE FRUEHAUFS EXCEED PIGGYBACK STRENGTH REQUIREMENTS!

In recent extensive forward and reverse tests with actual rail car equipment to determine the strains imposed by impact, Fruehauf Trailers and all associated equipment far exceeded specifications of 5 G's with 42,000 pound payloads!

FRUEHAUF TRAILERS

• **See the Fruehauf Flexi QUAD CAR . . .** the versatile, multi-purpose rail car . . . at the 31st Street I.C.RR yard display of the Railway Progress Exposition.

"ENGINEERED TRANSPORTATION"—The Key to Transportation Savings

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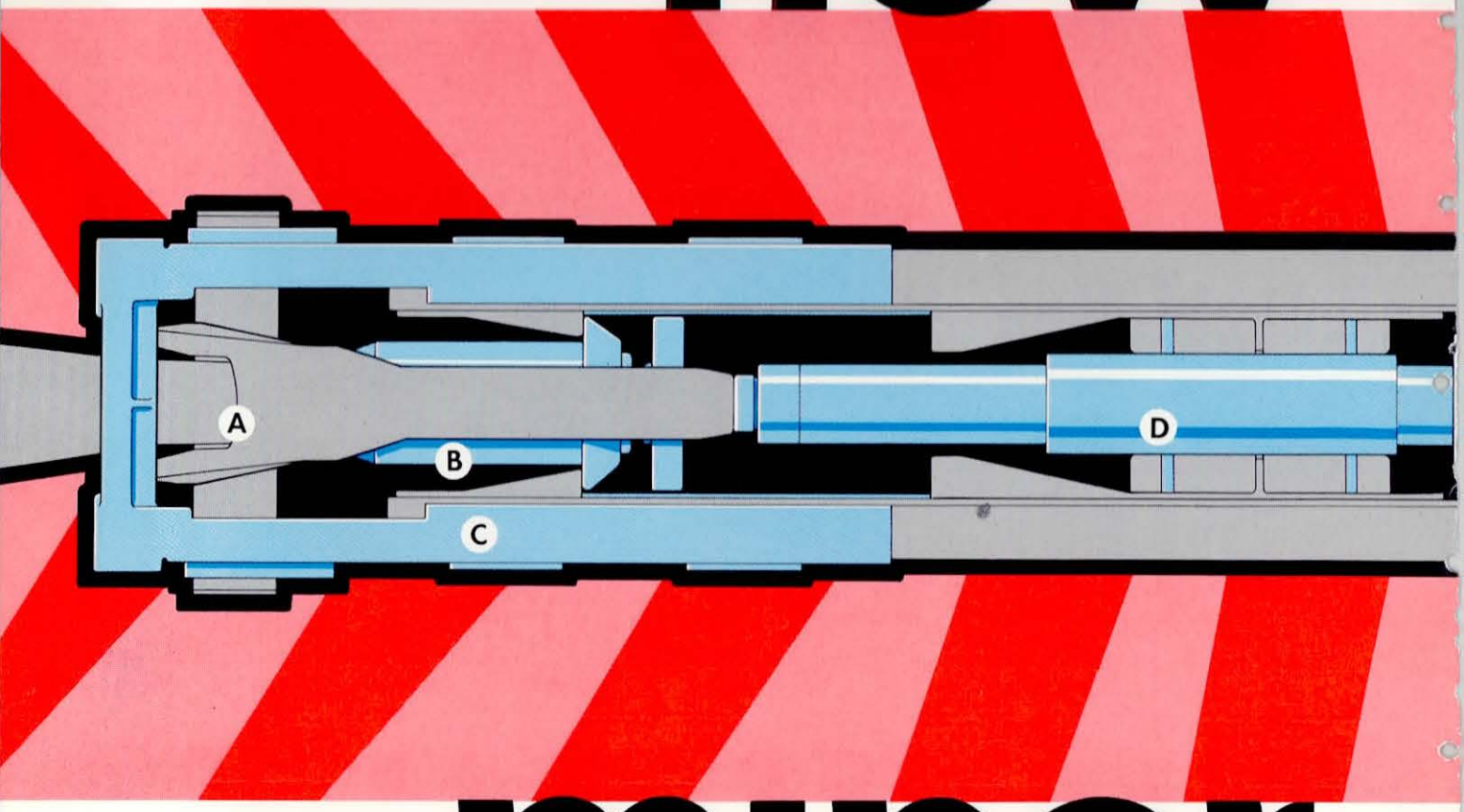
INTRODUCING A BOLD NEW CONCEPT
the M-20
by MINER

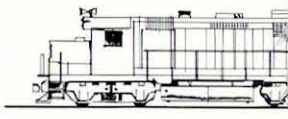
new

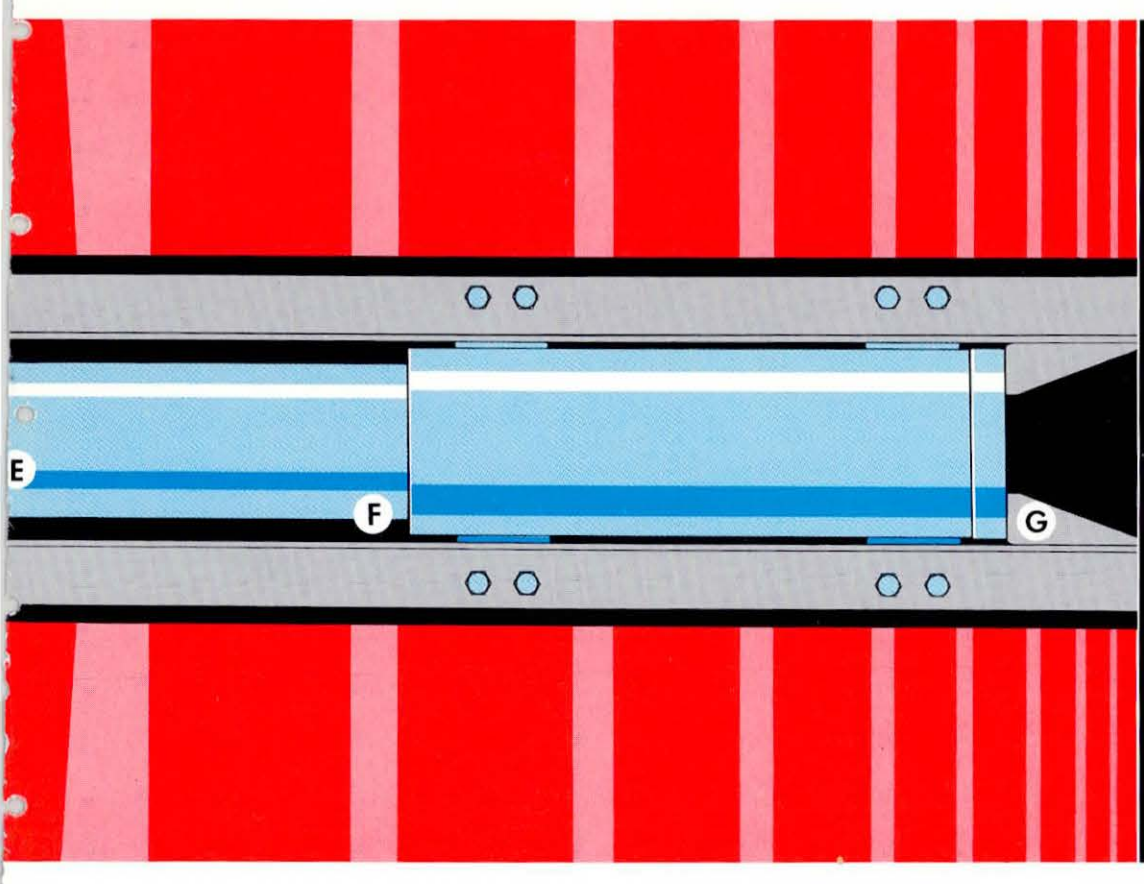


miner

M-20

Protects lading and car structure





- **A** Standard Y-40 yoke and E-60 or BE-60HT coupler.
- **B** Special friction draft gear, 22,000 FT-LB capacity.
- **C** Large frame or sill, coupler and draft gear carrier solely for vertical support of components, never subjected to axial loads.
- **D** Tubular guide member to support and align the cushion unit drive rod.
- **E** Long bore, long stroke hydraulic shock absorber mounted immediately behind bolster center filler.
- **F** Cutaway section of standard car underframe 6 ft. behind bolster center filler.
- **G** Set of rear stops which transmit reaction forces in buffing to car underframe.

W. H. Miner's new, highly efficient buffing arrangement provides the ultimate in protection of lading and railroad car structure. The M-20 device combines mechanical and hydraulic shock absorption into one assembly, which smoothly cushions shock between cars at speeds up to 12 mph. It maintains its own structural integrity under severe impact conditions, while guaranteeing cushioning in draft equal to a standard A.A.R. gear.

The M-20 cushions heavy buff impacts through the use of a hydraulic shock absorber coupled in series with a special friction draft gear. When buff loads are encountered, the coupler moves inward, compressing the draft gear and the hydraulic cushion unit serially. The buff load is transmitted to the car underframe smoothly through the cushion gear stops and the rear draft lugs. Results: Greatest lading and shock absorption protection ever attained at moving speeds up to 12 mph.

EASILY APPLIED TO EXISTING ROLLING STOCK

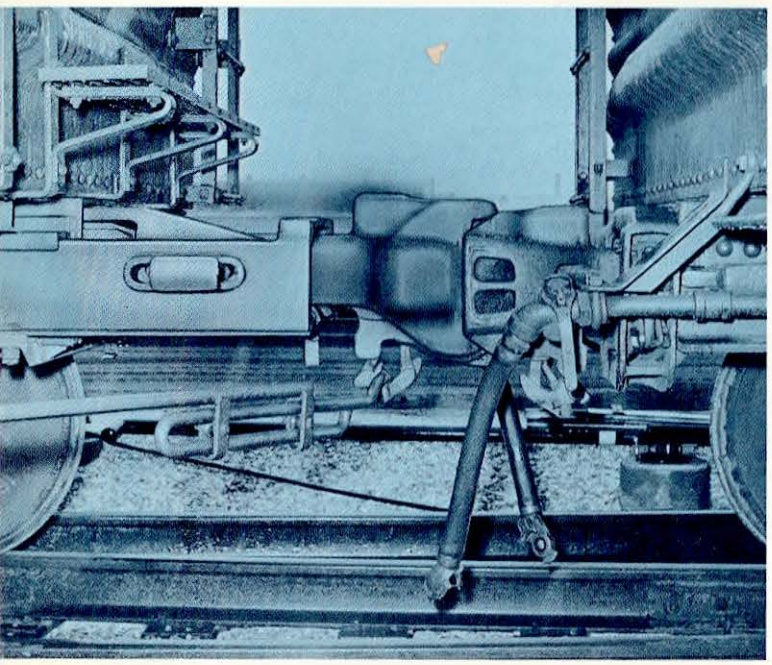
The M-20 Miner unit is readily applicable to existing rolling stock with a minimum of structural modification. Experienced crews can make changeover on old cars in two days.

See M-20 LadingGARD at Railroad Show, Booth No. 743, Track Exhibit No. 1-South

new M-20 device is field proven

With the trend to heavier loads per car, increased train speeds and faster switching operations in yards and terminals, the industry need developed for a modernized shock absorber, bold enough in design to keep tempo with today's railroad operations. Miner's extensive experience and research dedication brought the M-20 into being to fill the railroads' requirements in every practical way.

The new M-20 friction/hydraulic shock absorber combination has been thoroughly tested in Miner's extensive research and development center, as well as proven in field performance by Western Pacific Railroad Co. The WP equipped a 70-ton capacity car with the M-20 and reported complete satisfaction with increased lading protection and ability of the car to take impacts at speeds up to 12 mph without damage to car's structural members or lading. The ability to take short radius curves, the same as a standard draft rigging, and rugged durability in daily operational performance are additional features of the new design. The M-20 is another bold concept designed to fit specific industry needs.



Here's how Miner's bold new concept of shock absorption, the M-20, looks installed. It's a picture of modern progress in protecting railroad lading and car structure.

New M-20 device was thoroughly evaluated at Miner's new Chicago R & D center. Shown here are center's test track, control observation tower and a car used in M-20 tests.

THE MINER M-20 IS IN PRODUCTION NOW

W. H. MINER INC., CHICAGO

OFFICE OF FOREIGN OPERATIONS 1212 Pennsylvania Bldg. 425 Thirteenth St. N.W. Washington 4, D.C., U.S.A.

TRAIN OPERATION

SOLID STATE TECHNIQUES

DIAL TELEPHONES

CAR IDENTIFICATION

Automation steps ahead

In four key areas of signaling and communications, automatic or remote control is making rapid strides toward the automatic railroad which will maximize the utilization of men and machines.

By Robert W. McKnight
Signaling & Communications Editor

The list of automatic or remote control equipment in the signaling and communications field that will be on display at the American Railway Progress Exposition should convince the mature railroader that the advanced techniques so long applied to model railroading are here today for the full-size railroad. For example, the following automatic systems or equipment will be on display or shown in movies: train operation on the Iron Ore Co. of Canada's 6-mile ore haulage line; switching equipment for classification yards; car identification; CTC which makes meets and passes without the operator's control; switching of message traffic or data communications; and dial telephone systems.

In the area of remote control, visitors to the McCormick Place exhibits will see equipment designed to control, via VHF radio or by inductive carrier, switching locomotives, hump engines for class yards, off-track vehicles such as cranes, bulldozers and shovels.

"We've been accused of being pretty stodgy, but I can tell you that we have spent a great deal more on research and development than some of these glamour electronics outfits. And I think you will agree when you see the S&C equipment on display at McCormick Place," is how one veteran S&C supplier summed up his feelings. He and other S&C manufacturers are "out of the nut and bolt" phase. That is, they will supply complete systems along with engineering, installation and follow up, if necessary. General Railway Signal and Stromberg-Carlson, for example, are just two of many companies stressing the complete signaling or communications package or system for railroads, not just an interlocking or a dial telephone exchange.

Train operation

Automatic train operation—two installations are in service in the U.S. and Canada — and automated CTC show promise of furnishing greater economies in train operation than heretofore realized. As for ATO, the hardware and technology are here today. The economies to be obtained from ATO indicate that within the next 10 years such installations might well be found on mainline railroads, as well as on rapid transit lines and mining railroads.

In Labrador, the Iron Ore Co. of Canada has four 18-car trains shuttling back and forth on a 6-mile rail line hauling iron ore from a loading point at the mines to a dumping location at a crusher plant. General Railway Signal furnished the equipment for this ATO project, as well as half of the equipment used on New York City Transit Authority's shuttle train operating between Grand Central Terminal and Times Square. Union Switch & Signal also furnished ATO equipment for this three-car subway train that is carrying revenue passengers on a one-half mile run.

Advantages cited for ATO are these:

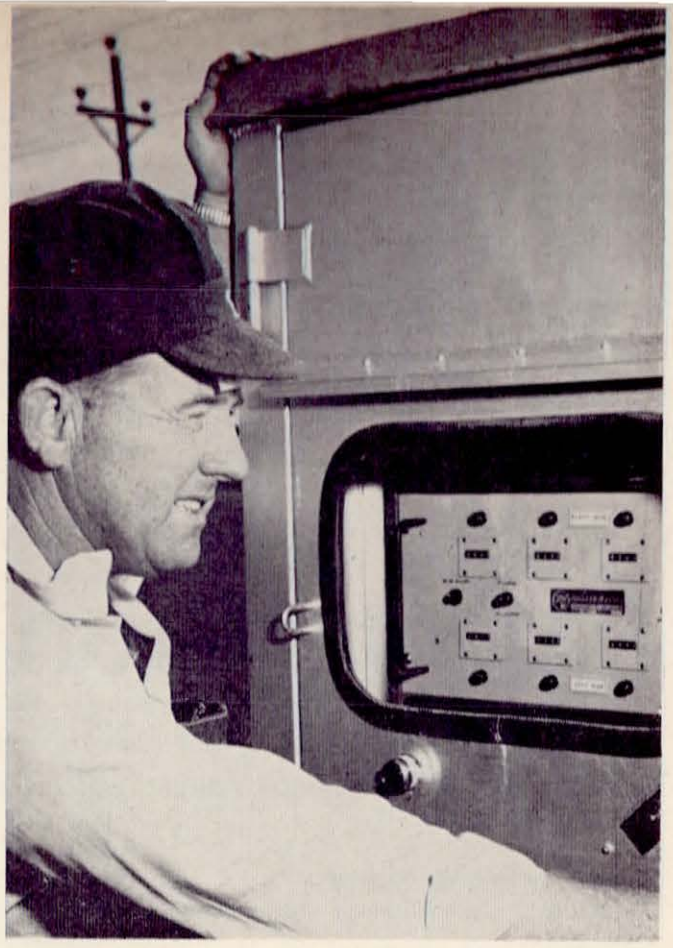
- More efficient use of motive power with savings in fuel or electric power consumption.
- Lower maintenance costs for motive power and cars because of improved handling by automatic controls.
- More uniform spacing of trains on a transit system by eliminating the variations in train handling by different motormen. Uniform spacing will provide better service and increase the capacity of existing transit lines, as compared to the number of unautomated trains they could handle.
- Reduction in size of crew. There appears to be almost unanimous opinion that, except for special situations (Iron Ore Co. ore haulage trains are crewless), automated trains will have an attendant ride the lead locomotive or power car.

Tests involving a 10-mile section of Canadian National mainline near London, Ont., three years ago, proved the feasibility of automating mainline freight trains. Tests were successful using 35- and 76-car trains running over varying sections of curvature and grades, use of dynamic braking, etc., all under automatic control.

The most likely areas of mainline ATO application appear to be where trains make sizeable runs without stops; for example, between train inspection or brake test points only. It has been suggested that ATO would be applied first to sections having coded track circuits, because this type of circuit is used to direct the train's movements. With an attendant riding the lead unit, even highway grade crossings would not be a problem. If a motor vehicle stopped on the tracks, the attendant could override the ATO controls to reduce the speed of the train or stop it.

As regards centralized traffic control, the development of higher speed coding systems, including the use of solid state

AUTOMATIC CTC uses Union Switch & Signal console in which meets between trains are made automatically.



TRAINMAN CHECKS READOUT to find car having hot-box. Detector system is made by Servo Corp. of America.

devices and the advent of the miniaturized control machines (pushbutton console) has enabled dispatchers to handle larger territories than previously. It has been possible to consolidate controls of several CTC territories into one machine (controlling 300-500 miles of road) utilizing one set of operators.

What with motor car movements, giving train lineups and answering other telephone inquiries, some railroads are finding the new larger-capacity CTC machines are not providing the payoffs anticipated, because a second operator may be required to handle first-trick operation. One solution to this problem has been to provide "automatic dispatching," as the Southern Pacific calls its automatic CTC. In the SP system (using Union Switch & Signal equipment and Traffic Control Center pushbutton control machines), trains progress through CTC territory making meets and passes automatically without the need for the operator to control switches or clear signals. SP has over 600 miles of automatic dispatching in service. The operator may take over control if he so desires, but the normal operation is automatic, leaving him time to concentrate on planning and performing his associated duties.

Three manufacturers—General Electric, General Railway Signal, and Union Switch & Signal—will display equipment for remotely controlling locomotives, bulldozers, cranes and other off-track equipment. The advantages of remote control include:

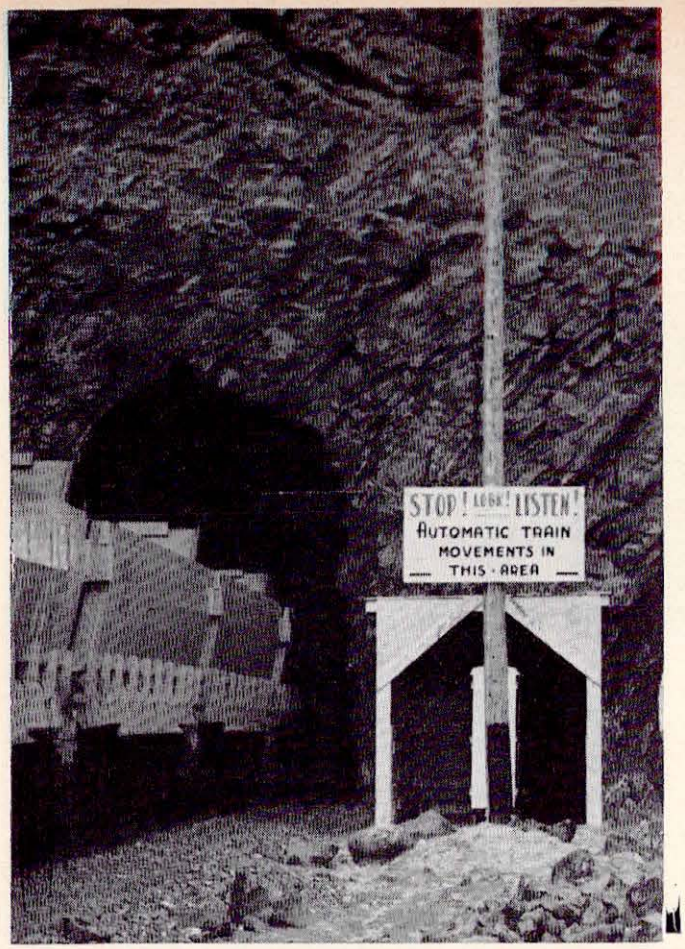
- One man can control the vehicle or locomotive with a portable radio unit and perform other duties such as throwing switches, coupling cars, and flagging highway crossings.
- The operator need not ride the vehicle, so that he can be at a location in which to best observe the vehicle's operation. Where the vehicle must work in potentially hazardous areas for a human being, the operator can be in a safe location.

The GRS system of radio control differs from the others in that several vehicles, possibly up to 24, may be controlled using only one VHF radio frequency. The other systems require a separate radio frequency for each vehicle.

Solid state techniques

Transistorized devices for microwave, multiplex, wire line carrier and two-way radio have been in use for several years. But the use of transistors or solid state techniques has now made its way into signaling equipment. Communications manufacturers (such as Noller Control Systems and Moore Associates) and signal suppliers (GRS and US&S) are now offering solid state systems for handling controls and indications for interlockings and CTC. In the field of highway crossing protection, Marquardt Corp., and GRS are using solid state devices for control equipment. These solid state electronic devices have the advantages of being compact, have no moving parts, are reliable, and are economical to install and maintain. A solid state automatic switching module, to be displayed by GRS, replaces equipment almost 32 times its size. This module, with a multiaperture ferrite core, is one of several that fit into a 19-inch relay rack, and is small enough so that an entire automatic switching system for an average classification yard, minus the switch control circuits, may be installed in a single 19-inch rack or cabinet.

On the communications side, visitors to the S&C exhibits will be able to view solid-state equipment ranging from Radio Corp. of America's microwave system capable of handling 300 voice channels over 1,000 miles, to Motorola's new PT series of portable two-way radios weighing only six pounds with power ranging up to three and five watts. Intermediate of these extremes of communications, mention might be made of Datatel 25A, Lenkurt Electric's system for transmitting eleven 80-column punch cards per minute or the



AUTOMATIC TRAIN OPERATION in Labrador uses General Railway Signal controls for 4 trains on 6-mile line.

COMPLETE COMMUNICATIONS for a railroad will be displayed by Stromberg-Carlson at this booth.

equivalent of 140-words-per-minute transmission over a telegraph channel.

Detectors

There has been a renewed interest in dragging equipment detectors in recent months, particularly since the Interstate Commerce Commission has permitted several railroads to install these devices without interconnecting them into automatic block signal systems. The major reason is that these detectors are being installed at locations where hotbox detectors are installed and the wayside equipment is able to report the location in the train of a car that has actuated the dragging equipment detector. Such pinpoint detection, plus the use of train radio to alert the crew of a dragging defect, has prevented accidents.

One train crew, for example, through such prompt reporting, stopped its train before the caboose had cleared the detector. They found a dragging brake rigging, which was wedged between two ties.

An extension of this idea of installing dragging equipment and hotbox detectors at the same location is what one railroad calls an inspection station. Such a station would have these two detectors plus a shifting load detector. The latter consists of photocells positioned to focus along the clearance lines so that a shifted load would break the light beam. An information signal will notify train crews that a detector has been actuated. At the stopping point, the crew will read a printed tape which will indicate which car actuated which detector.

To complete such a train inspection station, it has been suggested that a broken flange and loose wheel detector be installed. Wheel Checkers has now added a paper tape recorder to its equipment so that a printed record can be made of broken flanges or loose wheels found by its detectors.

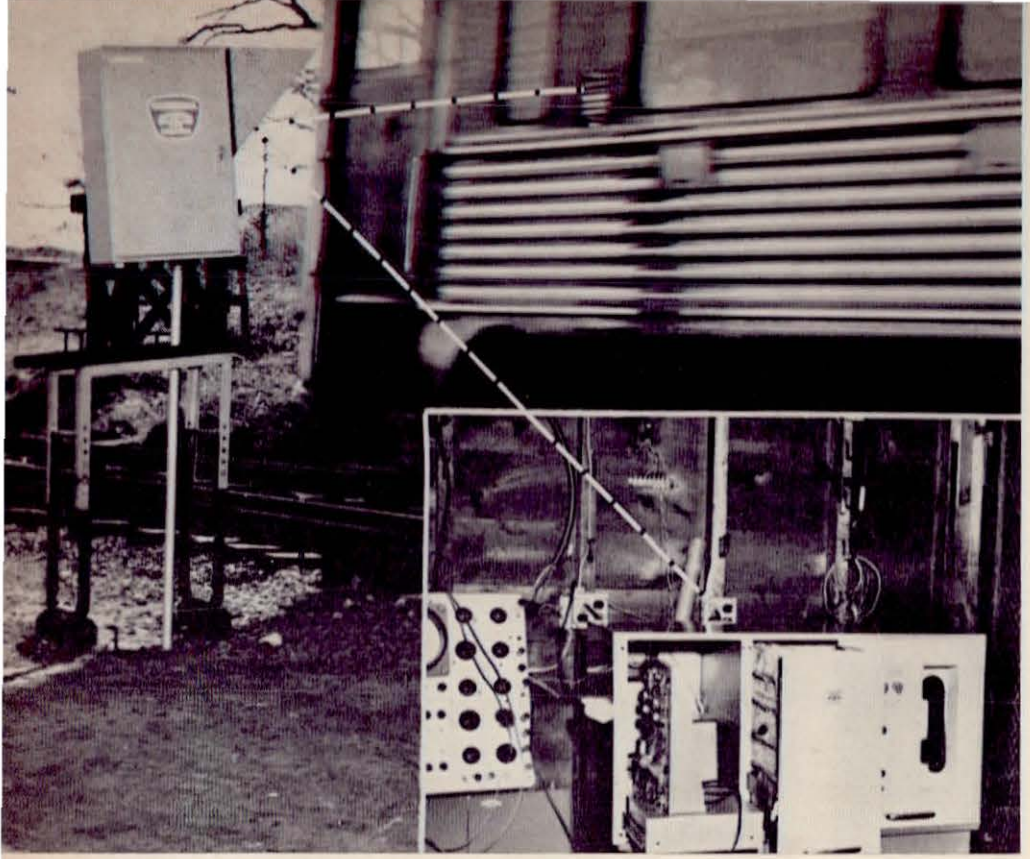
Car identification

The complete inspection station concept would be further enhanced if automatic car identification equipment were installed so that a print-out would be available with the number and initial of the cars operating detectors. Thus a complete inspection record would be available, and corrective action could be promptly taken. McCormick Place visitors will be able to inspect two ACI systems—Sylvania Electronics and Union Switch & Signal have extensively tested their equipment under actual operating conditions on the Boston & Maine and Union Railroad, respectively. While several other manufacturers are working on ACI systems, here are two that are in actual railroad service. While some persons have apparently sat back and decided to wait for the ultimate system, there appears to be no really logical reason why either one or both of these systems should not be installed on a mainline railroad.

While some decry the cost of ACI, (the AAR has set a price of $10 per car for labeling and $10,000 for a wayside scanner), reliable sources indicate that the cost of labeling is now under $5 per car and that wayside equipment would cost between $5,000 and $10,000. With the minimum of 25% savings estimated to accrue from ACI, it is hoped that some railroads will get off dead center pretty soon and start reaping the benefits. The same hue and cry went up when hotbox detectors came out—"it's not as good as it should be for the price," but those railroads that installed hotbox detectors in '57, '58 and '59 found them to be well worth the cost.

Dial telephones

There has been a resurgence of dial telephone installations on the railroads. Recent developments in dial telephone technology have fostered this renewed interest. Four-wire switching which permits dialing through and around inter-



AUTOMATIC CAR IDENTIFICATION system developed by Sylvania Electronics has been tested on the Boston & Maine, summer and winter, for over two years.

mediate private branch exchanges with a reduction in transmission loss is just one of many new developments in dial telephone circuitry. Call directors or register-senders provide for universal numbering schemes that make direct distance dialing easier and faster for the user. Message circuit dialing provides dial phone service for branch line stations.

Economies of dial service include replacement of manual switchboards with automatic exchanges and the elimination of telephone operators. "When you are going to write a letter or send a telegram, use the telephone for economy—it costs less than your secretary's time," commented one communications officer. The time and cost saving, of course, applies to both parties to such a call, and furthermore, a quick answer is assured. Also, faster telephone service conserves manhours and enables railroads to give their shippers and passengers better service. Dial telephones provide more than double the efficiency of manually placed calls. Less circuit time is required for each call. Since users know they won't have to wait for the operator, then wait for a line, they are less prone to hang onto a call while searching the files for information. Also, they are less likely to hold on to the line for several others to get in on the one call, thus tying up the circuit while waiting for people to come to the phone.

When upgrading circuits for dial phone service, the improvement may carry over into the data communications field so that the new circuits may be used for both types of service. For example, Great Northern has just completed a direct distance dial telephone system which features four-wire switching to improve transmission quality to the extent that the system could be used for data transmission when not used for voice communications. Although not using the system now for data communications, the GN is considering the possibility of using it for data at night after the close of normal business hours.

Using Stromberg-Carlson equipment, the GN dial system extends from the road's headquarters at St. Paul, Minn., along its lines to Seattle, Wash. The dial system links numerous private branch exchanges along the railroad as well as message circuit lines to provide a completely integrated dial telephone network. In addition to direct routing of calls, the S-C switching equipment provides alternate trunking. When the direct trunk group is busy, the switching equipment automatically seeks out alternate routes to complete the telephone call.

Register-sender equipment provides the GN with a universal numbering plan whereby the caller uses the same digits to call a particular location, say St. Paul, regardless of his location on the railroad. The register-sender receives the called number as it is dialed, interprets it according to the requirements of the particular PBX, selects the proper route and transmits the pulses necessary to route the call to the proper destination whether within the same PBX or through the associated four-wire switching centers and another PBX.

As part of the dial system project, a Lenkurt Electric 12-channel, 45A wire line carrier system with 53 repeaters was installed between St. Paul and Seattle, about 1,800 miles. Also, a 12-channel, 45BN carrier was installed on cable between St. Paul and Minneapolis, 11 miles, which eliminated the need for several leased wire circuits from a communications common carrier.

Surcom—Shared Use of Railway Communications—proposed by the Railway Systems and Management Association, has attracted considerable interest among railroad communications and data processing men. Surcom would provide car reporting and car accounting on a nation-wide basis. Railroads would send car reporting information to a computer center. Also, the center would be equipped with electronic communications switching equipment. Railroads could interrogate the center concerning car movements and per diem data. Also, the switching center could handle message or data traffic between the roads belonging to the Surcom system. Western Union Telegraph Co. will have an exhibit at the Exposition which will demonstrate how a similar car reporting and message switching center might handle railroad communications.

To handle large amounts of data, microwave and high-capacity wire line carrier systems have been installed by the railroads. Some roads have turned to Telpak, the phone companies' multichannel tariff providing what some have called "bargain basement rates" for bulk communications. The Federal Communications Commission held an investigative hearing on Telpak, and its decision is expected shortly. However, an interesting development has occurred that may signify Telpak's fate. As part of the FCC's investigation into domestic telegraph service, information has been requested from the General Services Administration including the effect, if any, it would have on GSA operations if the Telpak tariff were rejected by the FCC. American Telephone & Telegraph Co. will have an exhibit at McCormick Place, at which it will have the opportunity to state its case for Telpak, as well as the other advantages of phone company services.

"Progress in a Package" might well be a slogan for the new developments and equipment in the signaling and communications fields that will be on display at the American Railway Progress Exposition. In summary, the signaling and communications equipment displayed will provide greater capability and reliability in a more compact and economical package.

SAB

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BOOTH NO. 618
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A record of nearly 50 years of trouble-free service proves the engineering excellence of SAB Brake Slack Regulators. Their successful performance has established the acceptance of the SAB fully automatic, double-acting, mechanical, screw-type brake slack regulator as part of a modern braking system. We welcome your inquiries on the SAB Brake Slack Regulator and its installation on your freight cars.

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NEW DEMPSTER SIDELODER*

Trailer Mounted Unit Works Cars on Any Team Track

The new 40 Ft. DEMPSTER SIDELODER is a trailer-mounted version of the 20 Ft. truck-mounted unit that is now being used in REA's coast-to-coast UNIT-HAUL Container System. No special installations are necessary . . . the one-man-operated SIDELODER works a stationary train of cars on any existing team track without tying up switching crews. Transfer of each container from rail car to lightweight, low-investment delivery trailers is accomplished in less than two minutes.

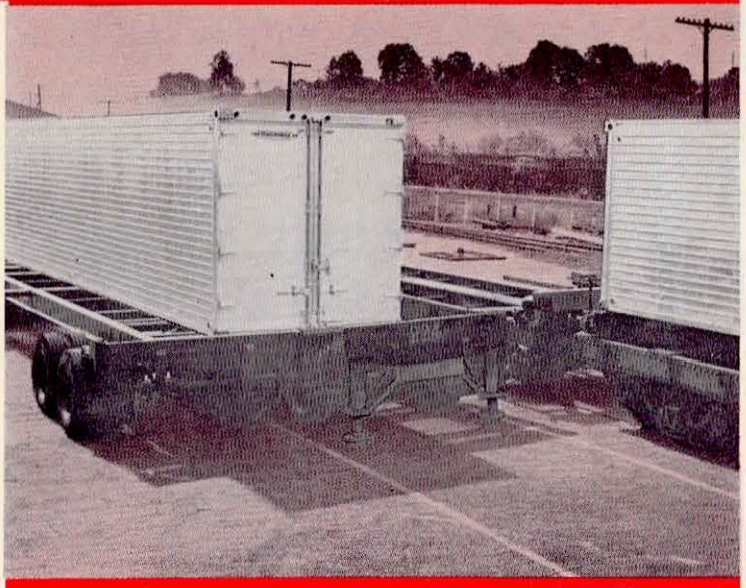
Movable bolsters permit the handling of any length container from 20 ft. to 40 ft. . . . even non-standard containers are inexpensively converted. New bolsters make SIDELODER SYSTEM compatible with crane operations where feasible.

From RAIL to RUBBER

1. Trailer-mounted SIDELODER positions itself between 40 ft. container and lightweight delivery trailer. Height is adjusted by use of hydraulic leveling jacks.

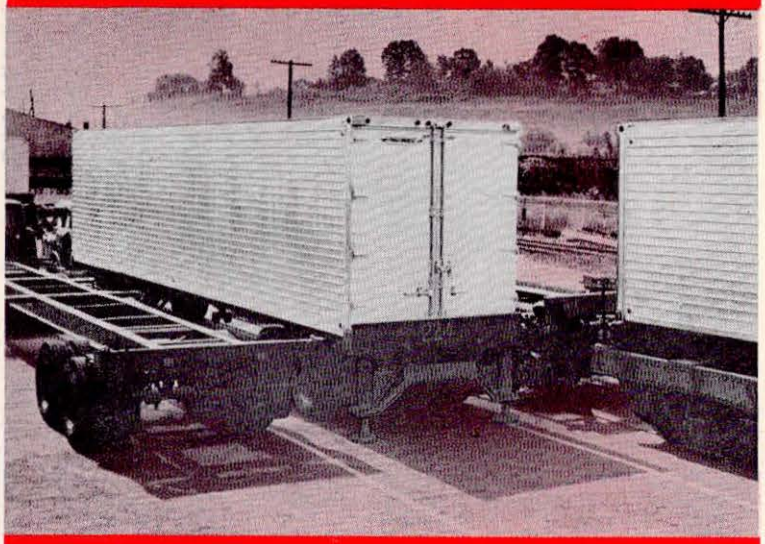
See it WORK in CHICAGO OCT. 9 thru 16

The new 40 Ft. trailer-mounted DEMPSTER SIDELODER will be unveiled October 9 at the Combined Railway Suppliers' Exhibit in Chicago. Both the 20 and 40 Ft. Models will be demonstrated daily through October 16, at the display tracks adjacent to McCormick Place



3. Opposed bail hooks engage bail bars in pushing position and move container from SIDELODER to lightweight delivery unit. Photo above shows container half way on delivery unit.

HANDLES 40 FT. CONTAINERS in Less Than 2 Minutes



2. Hook platforms move spring-loaded bail hooks under container where bail bars are engaged. Bail hooks pull container smoothly off of rail car and onto SIDELODER.

4. Container is now on lightweight delivery unit ready for trip to consignee. At this point, container is secured in place by raising and fastening container corner locks.

Side Loader Goes Anywhere ..Works Anywhere.. FAST!

The 40 ft. DEMPSTER trailer mounted SIDE-LODER is legal over-the-road. It travels at truck speeds to nearby cities, industrial plants . . . anywhere container transfer is required. Because of its four independently operated hydraulic stabilizing jacks, the SIDELODER can be operated on uneven terrain . . . under adverse conditions.

This low-investment system of container handling is far less expensive than other methods . . . such as gantry cranes and yard-bound fork trucks . . . yet it is completely compatible in interchange operations with other systems.

Write today for complete information and a free brochure on this new development.

*SIDELODER is a trade mark of Dempster Brothers, Inc.

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DEMPSTER DUMPSTER®

SYSTEMS

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Knoxville, Tenn.
Please send brochure on SideLoder

Name_____ Title_____

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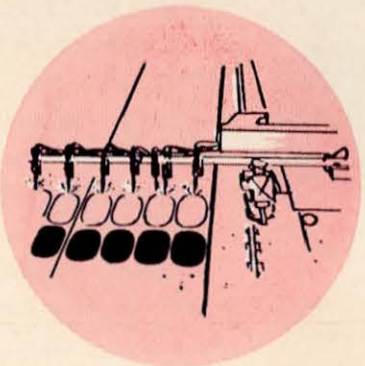
You'll find equipment, materials, and service specifically for railroad operations all available at one convenient call.

A COMPLETE LINE OF GAS WELDING AND CUTTING EQUIPMENT

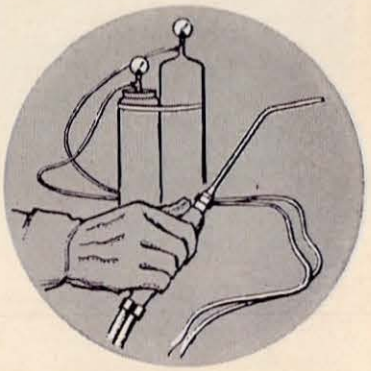
HAND WELDING AND CUTTING. Specifically designed for railroad use, OXWELD equipment is ruggedly built and thoroughly tested for safety, dependability, and ease of operation. A broad line of OXWELD welding torches, cutting attachments and cutting torches is sold only to railroads, to perform such specialized work as car reclamation, cutting and welding rail ends, repairing bridges and buildings, etc.

GASES. For 55 years, LINDE, through its affiliates and the Oxweld Railroad Department, has been serving the railroads with high-purity welding gases. LINDE gases for welding and cutting include acetylene, oxygen, argon, and others. Nationwide production and delivery facilities help provide prompt, efficient service.

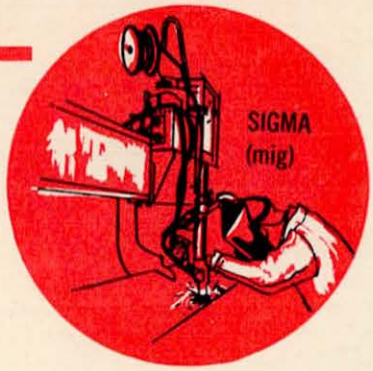
CUTTING MACHINES. These machines are important to car maintenance operations because they can be used for simple cutting jobs or mass production of intricate patterns quickly and economically. The pieces will be uniform in size, with clean, easy-to-weld edges. Ratio cutting and tape control attachments are available to minimize human error.



MISCELLANEOUS EQUIPMENT AND SUPPLIES. OXWELD gas regulators are designed and built for superior performance while providing years of dependable and accurate operation. Welding rods specifically for railroad use include the well-known M/W rod, DRIBURN rod, and HAYNES alloy rods for hard-facing. OXWELD welding heads and cutting nozzles are chrome-plated to resist spatter and heat, for longer life and fast, accurate operation.

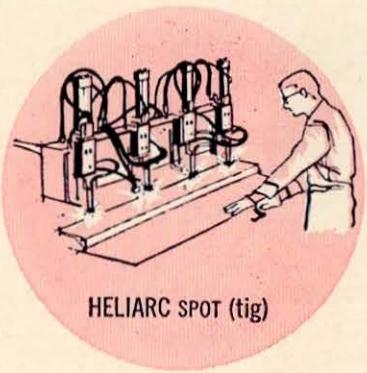


A COMPLETE LINE OF ELECTRIC WELDING EQUIPMENT



MIG WELDING EQUIPMENT. Choose any or all of three types of LINDE's "Sigma" equipment for car shop operations where a variety of metals must be welded fast and economically. The latest in the line is the SIGMATIC "Push-Pull" welder that lets the operator work up to 100 ft. from the power source, control and wire feeder. He can work the full length of a car, from floor to roof, without moving the power source! See this newest development at our booth in the Chicago show.

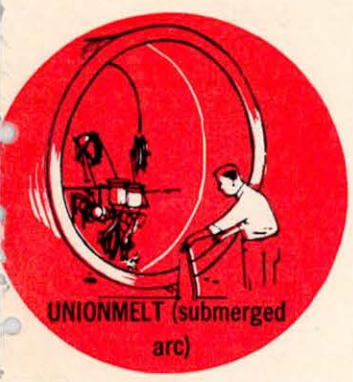
TIG WELDING EQUIPMENT. LINDE originated the HELIARC line. This inert gas-shielded welding process solves the problem of "hard to weld" metals. It's another of our contributions to railroad efficiency, and provides high quality welding of many thin-gage metals, such as stainless steel and aluminum, which are becoming increasingly popular in railroad equipment and cars. In addition to unsurpassed quality and flexibility, HELIARC welding requires little or no post-weld cleaning, thus providing optimum savings in time and labor.



POWER SUPPLIES. The extensive line of LINDE power supplies enables railroaders to select the proper model to meet the welding requirements of mechanical or maintenance-of-way departments. A variety of units, 200, 300, 500, 750 and 1,000 amps., is available for mig, tig, submerged-arc, flux-cored wire and CO_2 welding operations.

Get all this through one source

YOUR OXWELD TRADE MARK RAILROAD REPRESENTATIVE



UNIONMELT (submerged arc)

UNIONMELT EQUIPMENT. LINDE'S mechanized submerged-arc welding process has almost unlimited railroad application. Fully automatic, it makes high-speed welds on all types of freight and passenger cars and locomotives, handles all grades and thicknesses of steel efficiently and economically.

LINDE RAILROAD PRODUCTS. ULOK air filters for locomotives and passenger cars are designed and built for maximum air filtration at economical cost. RIBBONRAIL, the most efficient process for continuous rail welding yet devised, is an original LINDE development and has been standard with railroads for 25 years, reducing maintenance expense on track and rolling stock. Flame-Hardening is another LINDE process for extending rail life, and samples will be on exhibit at the Show. New, disposable OXWELD potable water bottles which are made of shatterproof plastic and guaranteed to be clean should play a part in reducing operating costs.

OXWELD service is built on 55 years of LINDE experience with acetylene, atmospheric gases, and welding equipment. The extensive field staff of the OXWELD Railroad Department is backed by continuing research by LINDE laboratories, and can also provide other material made by UNION CARBIDE such as plastics, chemicals, metals, along with advice on their application.

OXWELD equipment, with the widest variety in its field, is available to you at almost any time through your local OXWELD representative who serves railroads exclusively. If you wish him to call, or need any information about LINDE welding and cutting equipment, manual or mechanized, write Union Carbide Corporation, Linde Division, Oxweld Railroad Department, 270 Park Avenue, New York, N. Y. 10017; or 230 N. Michigan Avenue, Chicago, Illinois 60601.

See all these and the new things in LINDE's "Oxweld" line at Booth 1025, American Railway Progress Exposition — Combined Railway Suppliers Exhibit, Oct. 9-16, McCormick Place, Chicago, Ill.

OXWELD Railroad Department

UNION CARBIDE **LINDE DIVISION**

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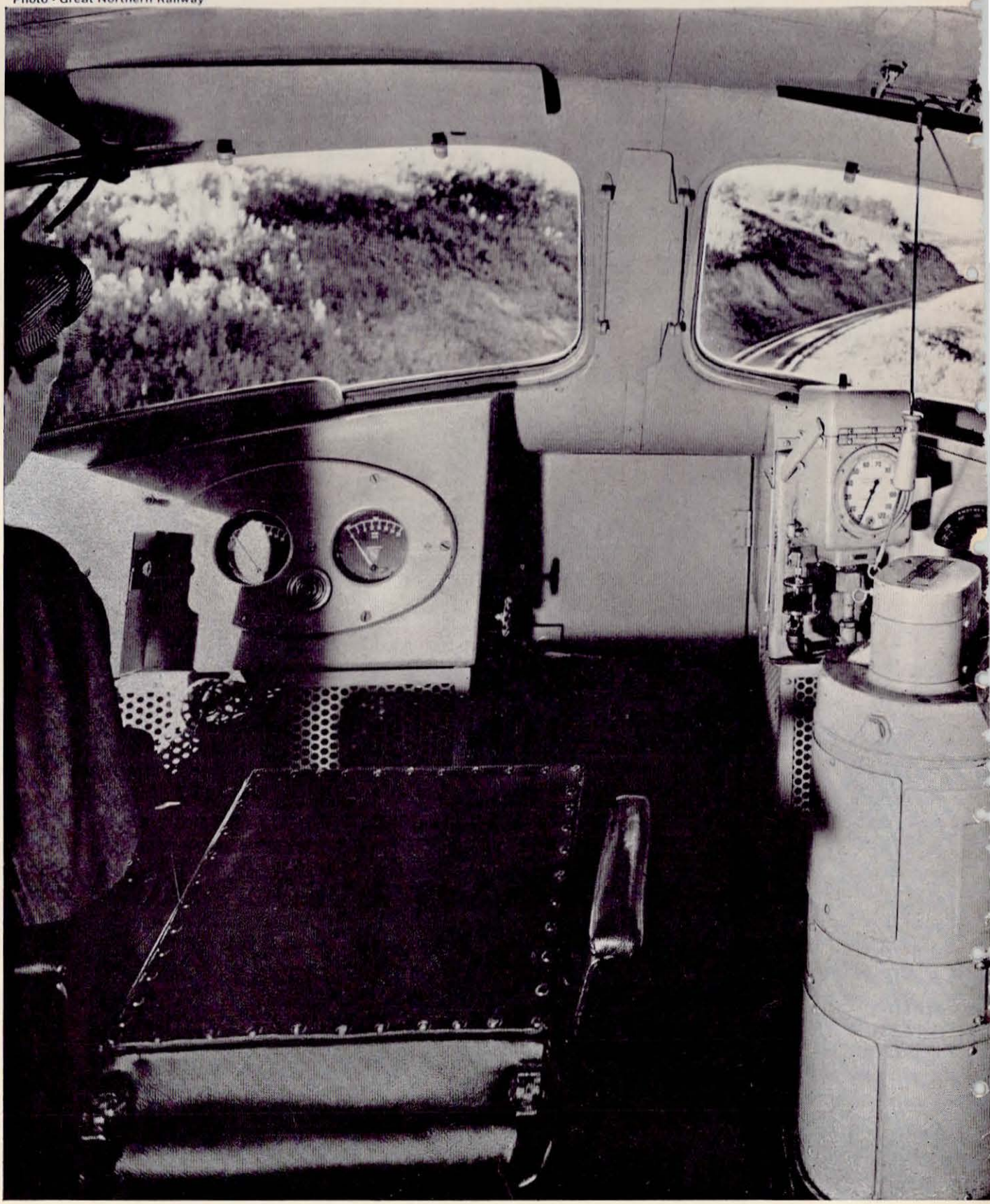
Sinclair GASCON® GL-XD

Photo - Great Northern Railway



keeps 'em on the road and out of the shop

Sinclair Gascon® GL-XD is the Special Diesel lubricating oil that

1. Greatly reduces engine wear
2. Greatly reduces engine deposits
3. Is non-corrosive to silver and other bearing materials
4. Provides improved oxidation resistance

Sinclair Gascon® GL-XD is the happy result of long research to develop a lubricating oil with better protection for today's more expensive, higher horsepower Diesel locomotives, and to extend their service life.

Millions of miles of trouble-free service offer proof that this new oil cuts maintenance costs and improves operating efficiency.

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RAILROAD LUBRICANTS

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NEW TYPE "STA"
EQUIPCO SIDE FILLER

SWINGS INTO POSITION WITHOUT EFFORT

ADJUSTS CAR TO WIDTH YOUR LOAD REQUIRES

ONE MAN CAN ADJUST A COMPLETE CAR IN TWO MINUTES...EVEN WITH LOAD IN PLACE!

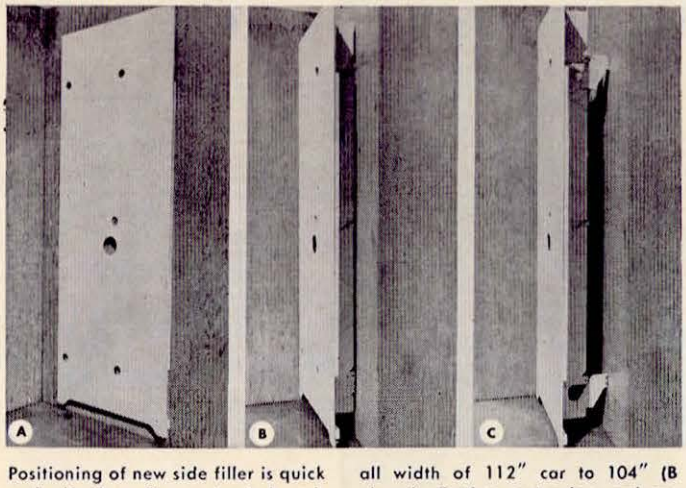
Entirely new, Equipco "Type STA" Side Filler takes the time and effort *out* of car-width adjustment. One man, working alone, can adjust a full complement of 10 "STA" panels in less than two minutes!

The panels *swing* into position. And the design is such that the Filler can be extended and locked *after* the load is in place . . . or unlocked and retracted before the load is removed.

Type STA Side Filler comprises a 3-position system. From retracted position snug against car wall, the panels swing outward to reduce overall width of a 112″ car to 104″. Further extension produces additional reduction to 99″. (Or, if desired, the system can be set on installation to provide such alternate car width position as 105″ and 100″, etc.)

In desired position, the new Equipco Side Filler braces the sides of palletized loads with a "wall" of solid support. With side voids thus eliminated, there is no shifting or toppling. And no need for hand packing . . . or hand realignment for fork-lift pick-up.

See and operate the new Equipco "Type STA" Side Filler at the A.R.P.E. (Chicago: October 9-16). Visit Equipco at Track Exhibit 4 N.



Positioning of new side filler is quick and effortless. From retracted position snug against car wall (A above), panels swing outward to reduce overall width of 112″ car to 104″ (B above). Further extension reduces overall car width to 99″ (C above). Standard car complement: 10 panels.

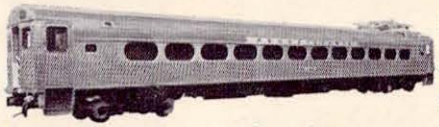
Equipco

EQUIPMENT SPECIALTIES DIVISION

6 N. Michigan Ave. Chicago 2, Ill.

UNARCO INDUSTRIES Inc ®

The care and coddling of commuters



In Boston, Philadelphia, New York, Chicago and numerous other parts of the country, the commuters are coming back to the rails—*happily*. Reason—the kind of service and comfort provided by modern, stainless steel Budd commuter cars. Now, the commuter rides to and from work in air-conditioned comfort, with plenty of room to stretch out and read the paper in a bright, inviting interior—arrives fresh, relaxed and on time. Making the commuter comfortable (and making more rail commuters) is not all that Budd commuter cars accomplish. Their lightweight and shining stainless steel exteriors mean real savings in power costs and maintenance . . . making faster, more frequent service and improved all around operation economically practical. Add up all the facts and you'll see that catching commuters the Budd way makes sense in every way . . . to the commuter, to you.

RAILWAY **Budd** DIVISION

Budd supplies a full line of MU and RDC cars and gallery coaches—all designed to make commuters happy.

THE BUDD COMPANY, Philadelphia 15, Pa. NEW YORK • CHICAGO • SAN FRANCISCO • WASHINGTON, D. C.

711 Carrier-Multiplex in a typical 10-channel arrangement

Your best transmission buy is Stromberg-Carlson "711" Carrier Multiplex

Low cost makes it practical. Solid state makes it reliable. Flexible design makes it versatile. You can apply it to a wide variety of system arrangements for voice or data over a broadband transmission path or radio link.

The 711 Carrier-Multiplex is single sideband and permits the use of channel units in groups of 1 to 10. Or, with translators, you can combine them in supergroups up to the 240-channel capacity of the system. The equipment is designed for the ultimate in compactness: a 10-channel group takes only 21 inches of rack space.

Layout of the 711 system follows a standard pattern that allows for most effective use of available space, ease of installation and maintenance, simple expansion. Special arrangements are available to meet special needs.

This equipment is representative of the complete Stromberg-Carlson line of communications systems and components, including XY® dial switching systems; four-wire data and telephone switching systems; voice and telegraph carrier; D.C. pulse or frequency dialing; PBX systems; telephones for every regular or special use. Our team of communications specialists is ready to work with you in planning the best approach to your communications needs.

For complete information, call or write the Industrial Sales Department, 128 Carlson Road, Rochester 3, N. Y. (716) HU 2-2200.

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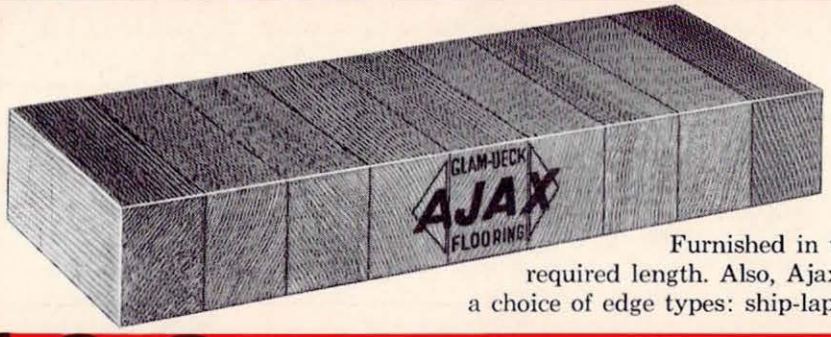
A DIVISION OF **GENERAL DYNAMICS**

TO FIT YOUR

CAR BUILDING PLANS

AJAX SUGGESTS:



AJAX GLAM-DECK

Sturdy Douglas Fir
EDGE GRAIN LAMINATED FREIGHT CAR FLOORING!

Furnished in various thicknesses . . . and any required length. Also, Ajax Glam-Deck Flooring gives you a choice of edge types: ship-lap, tongue and groove, or straight.

A. A. R. APPROVED

AJAX NO. 5

Vertical Wheel
POWER HAND BRAKE

Safety-engineered 2-way (double safe) operation: Full, easy RELEASE BY LEVER . . . or . . . TWO-WAY NON-SPIN vertical wheel operation. New, safer spring-loaded pawl—twice as many ratchet stops, for finer control—flat power curve, for added power with long *or* short piston travel. Also plated moving parts to stop rust and corrosion.

AJAX LEVER

(pump handle)
POWER HAND BRAKE

Safe! Quick-acting! Mounts within sides of drop-end gondola—flat profile for maximum clearances—corner post mounting for brakeman's clear view. One hand operation—quick take-up. Excellent leverage eliminates undue strain. Weighted, flip-type control lever.

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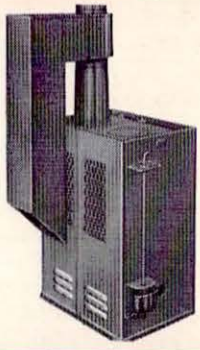
Waterless, LP gas incinerating toilet for diesels, cabooses, work cars, other places without water and sewage. Requires 12, 30-40, 60-80 volt DC, or 115 volt AC connection; low wattage. Waste completely consumed in separated chamber by automatic gas jet; practically no ash; clean only every 6 months. Built-in exhaust removes 100% of odors.

AJAX CLEEN-FLAME SPACE HEATER

For REAL COMFORT in caboose, auxiliary car or shanty! Delivers up to 50,000 B.T.U. per *hour* even on lowest grade fuel. Controls are simple and safe—surface cooking with positive utensil holder—parts quickly removed for easy cleaning. Special stainless steel burner and interior parts. No rust, no corrosion!



See Us at BOOTH 705
American Railway Progress Exposition

Write to AJAX **CONSOLIDATED COMPANY**

8701 S. Greenwood Ave., Chicago 19, Illinois

PENTRON Division of Pentron Electronics Corporation

Freight car repairs: Are they necessary?

ACL's chief mechanical officer poses a strong challenge to the railroads' role as car rebuilders. His argument: By today's standards, the costly job is both unnecessary and uneconomic.

Can carbuilders and railroads, working together, design and build cars that will be virtually maintenance-free—at least so far as major repairs are concerned—for their full useful lives?

From J. W. Hawthorne, Atlantic Coast Line's chief mechanical officer, comes a firm "yes"—with accompanying observations that (a) most railroads don't really know exactly what they're paying for freight-car repairs, and (b) railroads, by today's standards, don't belong in the heavy car-repair or car-building business.

Mr. Hawthorne makes his point bluntly: "If a competent businessman who had never been employed by a railroad were to scrutinize closely almost any facet of the average railroad's freight-car repair program, he could only come to the conclusion that the railroad was guilty of poor purchasing policies in buying equipment which would require such repairs in a normal service lifetime or was attempting to extend the life of obsolete units unduly —and, in either event, was using extremely poor judgment in making such expenditures for repairs to older equipment.

● **An 'amazed outsider.'** "The outsider would probably be further amazed that an industry established to transport freight would have as a sideline the virtual reconstruction of its transport tool, the freight car."

No other transportation mode takes on this job, Mr. Hawthorne points out —but the railroads do. And an expensive job it is.

ACL's chief mechanical officer picked eight roads at random, checked their Account 314 (Freight Car Repairs) reports for 1962—and found the eight spent between 4.5% and 6.8% of total operating revenues for repairs. Or, putting it another way, "few railroads pay dividends to their stockholders which are in excess of their charges to freight-car repairs."

● **'Disquieting facts.'** It's not only the expense that bothers him: "During the early stages of the current per-diem case, we turned up a disquieting fact in that none of the railroads checked appeared to be aware of their actual costs on a day-to-day basis for freight-car repairs as divided between running repairs and the more expensive repairs consummated in the heavy-repair shop. Even more disquieting is the fact that apparently none of the roads checked had any idea of the cost involved on a current basis in performing even the most common repair job."

So far as Coast Line is concerned, he notes, several criteria come into play when a car reaches a point where it needs more than light repairs:

- "Is the car needed to handle available traffic? If it isn't, it certainly isn't necessary to repair it for continued service, and it should be retired."
- If the car is needed and can be repaired, "is it so obsolete in design, so low in capacity or so limited in its operational ability as to render it suitable only for limited use? If this is so, the car should not be repaired even if a pressing need arises when literally any car will be acceptable to the shipper as this is short-time and costly emergency work, the need for which should not obtain in well regulated business."
- If a car in the latter group is repaired, "how long will it be serviceable in terms of miles operated or loads handled before either high-cost running repairs will be encountered, long out-of-service periods be experienced or further heavy repairs be needed?"

As Mr. Hawthorne sees it, mechanical and transportation-department officers are sincere in their efforts. But they lack cost-control data necessary to effective decisions—and the lack shows up in "such examples as newly repaired box cars . . . found daily with broken body bolsters, newly repaired tank cars found with failed underframes, etc."

A sampling of 500 cars, he notes, was taken earlier this year by the AAR Mechanical Division. All were cars with defects requiring transfer of lading—and the record indicates "an appalling number of structural defects, many of which were literally built into the car through inadequate equipment design."

● **Buying policies?** Purchase of a new car, Mr. Hawthorne declares, "is still the ultimate factor determining the economics of freight-car repair, [and] it has been our experience, based on the condition of cars passing over the repair tracks, that all too few railroads have freight-equipment purchasing policies which include a careful analysis of the strength and expected life of the new cars' components. Personal contact with many mechanical officers indicates to me that it is a rare railroad where parts design is subjected to stress analysis and new cars ordered which conform to reasonable strength in structural members, floors, ends, etc."

For ACL, the answer apparently has been to buy with care—and to spend a little extra in the beginning to guarantee against high-cost repairs becoming necessary within a few years.

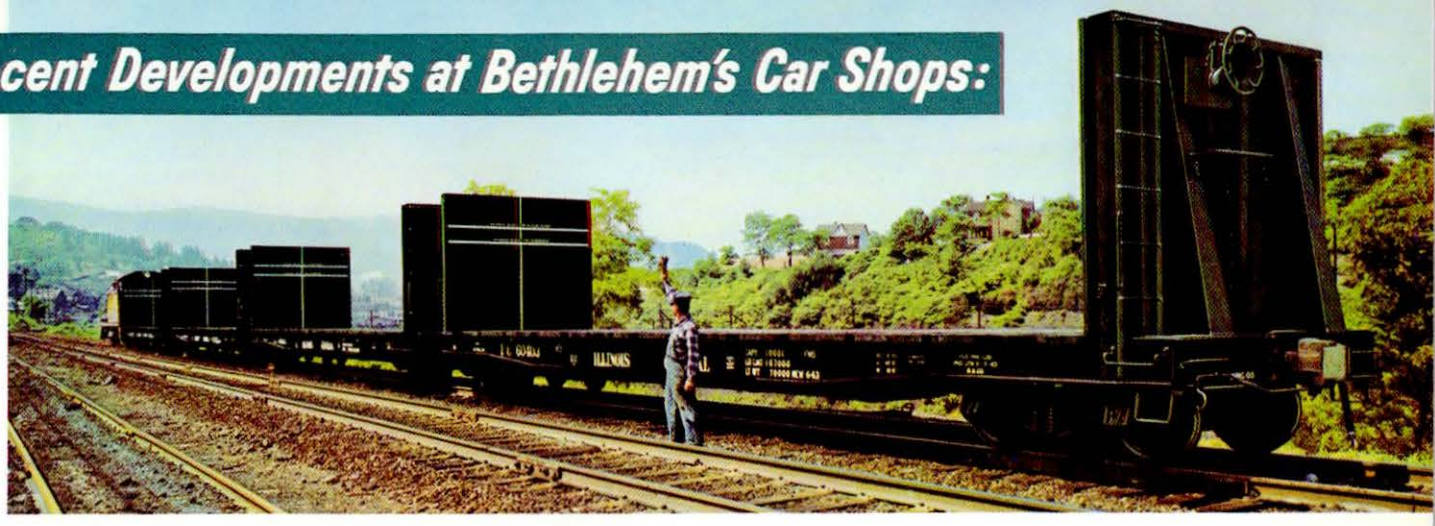
● **ACL's experience.** Item: Coast Line has two series of pulpwood cars, one of cast-steel design, the other built of steel plate and structural members riveted together. The cars were built more than 12 years ago. Thus far, they've had only light running repairs or periodic journal-box or air-brake work. Mr. Hawthorne sees no "repairs" coming up—except perhaps painting. But—"subsequent to the construction of these cars, we have observed similar equipment of other roads built at about the same time deteriorate to a state where heavy repairs became necessary. . . . While it is true that our initial investment was above that of the other roads, it was not above the original cost plus the cost of intermediate general repairs—and we certainly enjoyed more car-days per year, per fleet unit."

Item 2: "Further proof of the ability of the railroad designing engineers to design equipment which will encounter no defects during its normal life can be found in a series of cement-phosphate covered hoppers, built under rigid specifications, which are in their 14th year of service and have been given no general repairs . . . [and in] a fleet of box cars now in their eighth year of service [which] appear still in condition to travel through 15 years. . ."

● **The reasons why.** Obsolesence and the demand by shippers for new designs are powerful factors in Mr. Hawthorne's reasoning. So, now, are the 14-year depreciation schedules set up by the Internal Revenue Service. At one time, he points out, a box car could be repaired and kept in service for 30 years and still satisfy shipper needs. Now, however, demand for greater capacity and "more trouble-free truck designs accelerates retirement. . ."

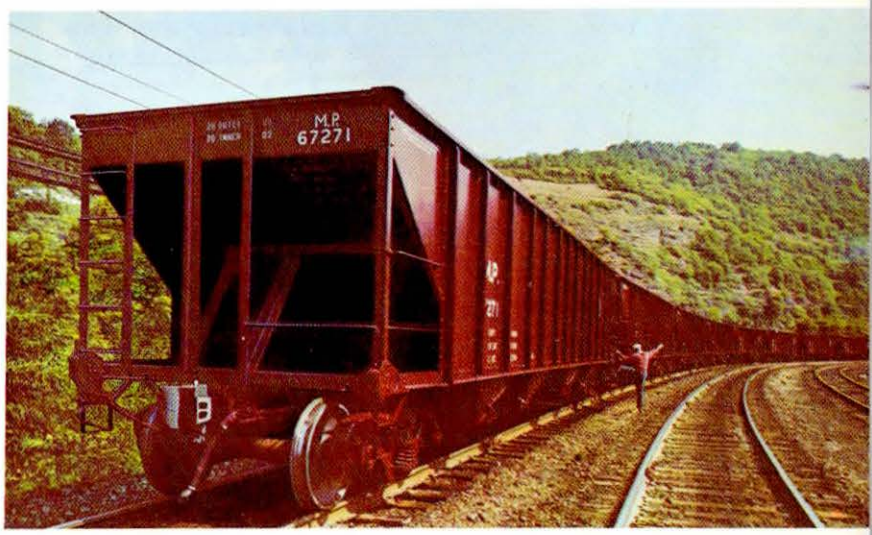
Mr. Hawthorne expects the trends to continue—and it leads him to a conclusion: Railroads should get out of the car-rebuilding business, "eliminating the need for heavy freight-car repairs and leaving car construction to the carbuilders, but only under the most rigid specifications."

Recent Developments at Bethlehem's Car Shops:



200 Bulkhead Flat Cars for Illinois Central

These 50-ton cars are probably the ruggedest bulkhead flat car design on the rails. Representative of the growing trend toward special-purpose cars, these bulkhead flats combine the best features of heavy castings and rolled-steel sections to achieve the most efficient and economical performance under heavy lading.



400 Quadruple-Hopper Cars for Missouri Pacific

These 49-ft giants were designed by Bethlehem especially for the Missouri Pacific, to haul 100 tons of iron ore, coal, or other bulk commodities. Plates of high-strength, low-alloy steel are used at all points of contact with the lading, providing long resistance to abrasion and corrosion.

400 Reading 85-ton Hopper Cars

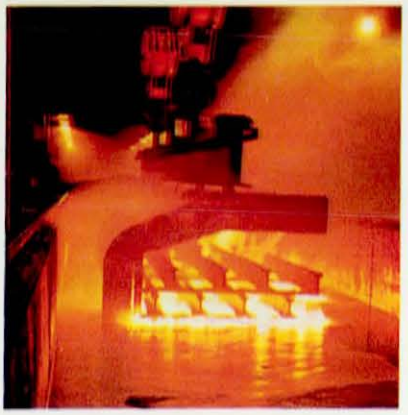
Designed as general service cars, these 85-ton hopper cars will spend a good portion of their time hauling iron-ore pellets. Incorporating many of the features of the so-called "Committee-type" hoppers (AAR Alternate Standard), these cars feature roller bearings, composition brake shoes, automatic slack adjusters, and high-capacity draft gears.

We'd like to discuss our Quality Car-Building Program with you

Steel

BETHLEHEM STEEL

BETHLEHEM STEEL

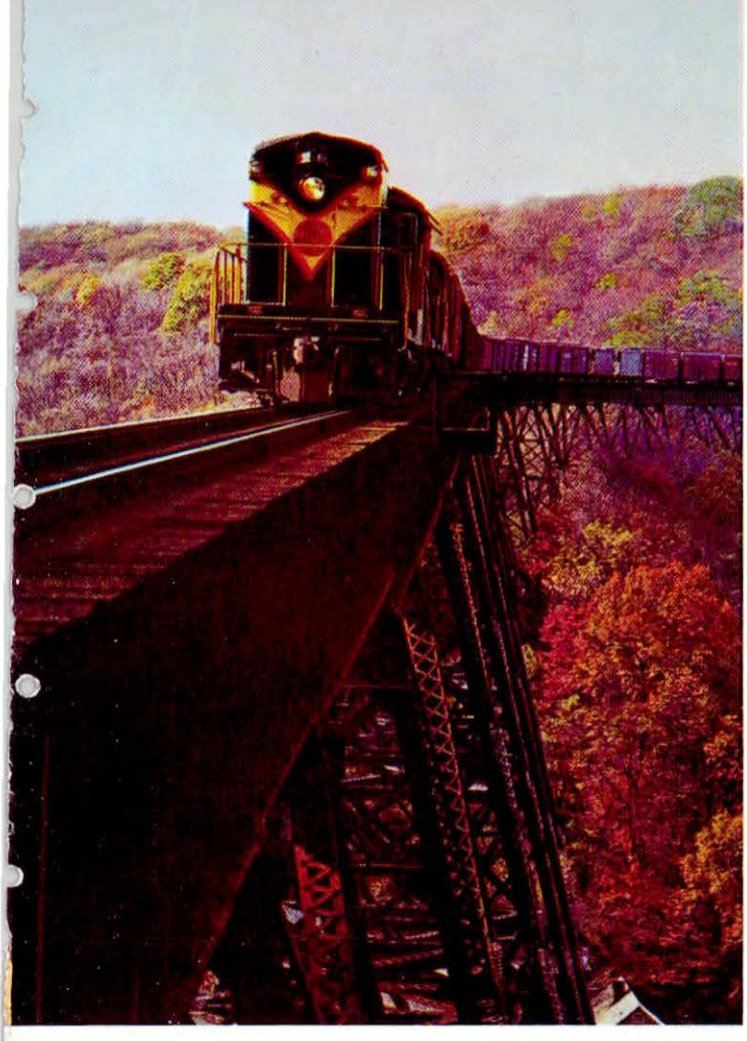


With Bethlehem Fully Heat-Treated Rails You Can Get 2 to 8 Times Longer Rail Life

Heat-treated rails have clearly demonstrated their dollars-and-sense value. We can almost promise you double the life of your present standard control-cooled rails, and we can show you examples of tripled and quadrupled rail life. One railroad, indeed, has multiplied rail life eight times in dense traffic conditions!

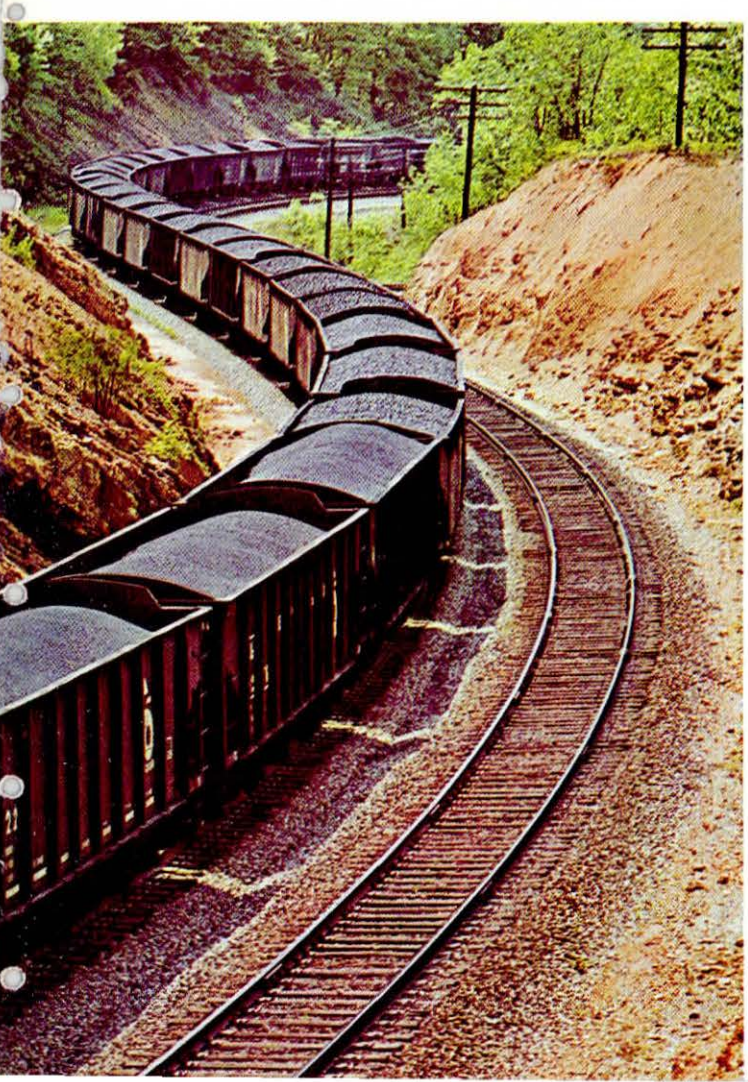
A major coal-hauling railroad has specified fully-treated rails as standard on all mainline curves of 6 degrees or more. A transcontinental is installing them on all curves 4 degrees and sharper. Our pictorial Booklet 525-A will give you ideas on what's being done. Then let's get together for a detailed discussion of the benefits of heat-treated rails.

ON THE BALTIMORE & OHIO, ascending curve near Terra Alta, W. Va.



ON THE PITTSBURGH & WEST VIRGINIA, a 200-ft curving bridge near Pittsburgh, Pa.

ON THE GREAT NORTHERN, installing fully treated rails near Carlton, Minnesota



ON THE CHESAPEAKE & OHIO, reverse curve near White Sulphur Springs, W. Va.

BETHLEHEM STEEL

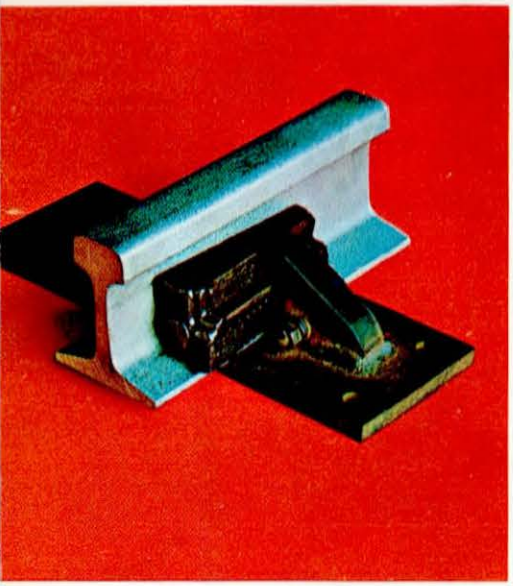
BETHLEHEM STEEL

Steel

Steel for Strength

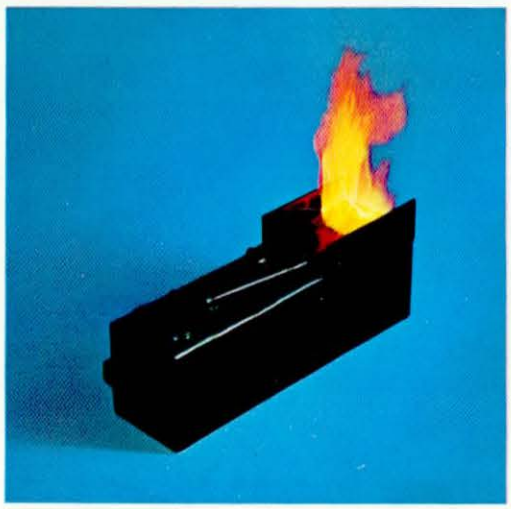
Bethlehem Hook-Twin tie plates provide stronger, more stable holding power than regular track spikes. They are ideal for frogs, crossings, closure rails, tee guard rails, graduated riser switches. Two plates fit on tie, easily adapt to any position on any frog or crossing. Hook-Twin tie plates distribute load over broad tie area, check lateral and vertical thrust, increase tie life.

Bethlehem compromise joint, also called "offset splice bar," is hot-forged and machined to conform to individual rail sections. Available in a wide variety for connecting rails of different section; or of the same section but of different joint drillings.



"Little things" like these can make good trackwork out of ordinary track

Bethlehem 811 spring rail brace combines foolproof bracing with minimum maintenance. Wedge-shaped forging fits snugly between triangular bracing member and web of rail. Steel spring in wedge provides automatic take-up for wear, keeps assembly tight. A pawl-and-slot feature provides positive locking, with horizontal adjustments in 1/16-in. increments.



Bethlehem Winter King switch heaters keep switches open in blizzard weather. One man can tend as many as 100 units. Fuel chamber allows 9 to 15 hours of operation, depending on the easily-adjusted size of flame. Easy to install and remove, virtually maintenance-free except for necessary refueling. Winter King measures 18 in. long, 4½ in. wide, 5½ in. high.

Bethlehem ANCO self-locking nuts, ideal for connections that must stay tight. Extra-strong alloy steel pin, crimped into each nut, travels between bolt threads and acts as ratchet to anchor the nut. Installed with ordinary hand wrench, can be removed and reused. ANCO nuts meet IFI specifications for prevailing torque-type lock nuts.

Steel

Steel for Strength

A nearby Bethlehem engineer will gladly help you with your trackwork problems

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P&S men set for working session

The Purchases and Stores Division, a driving force in the creation of the Chicago Exposition, plans to take advantage of the opportunities during the show for railroad-supplier discussions.

By William V. Tuite

Purchasing and Stores Editor

Purchasing and stores men are taking a particular pride in the Oct. 9-16 American Railway Progress Exposition. "We started it all," they say.

Chairman-designate of the P&S Division, Curt F. Bayer, director, purchases & stores, Erie-Lackawanna, explains it this way: "We have deplored the repeated meetings of the various Divisions, all held at different times and at a great cost to the industry. We have urged that all divisions hold their meetings at the same time and in the same city. We also felt that there was no real necessity for having meetings every year and that these could be held every other year. Our thinking was progressed through the AAR and, in time, has led to this combined Railway Supplier's Exhibit together with the coordinated meetings of the various AAR divisions and allied organizations."

● **No-frills meeting.** It has also led to what will be the finest-ever opportunity for P&S men, attending the 36th annual meeting of their division, to bring together the heads of many of their railroads' using departments (they'll all be there) and the suppliers of just about any item in their stock books. To permit members to take advantage of every opportunity which the timing of the 1963 annual meeting offers them, all of the frills of past meetings have been pruned away and only the bare essentials remain to occupy the P&S man's time during the three days of the scheduled P&S Division meeting.

Division Chairman F. J. Steinberger, vice president and general purchasing agent, Santa Fe, and P&S Division Executive Vice Chairman J. H. Bean, are planning to hold a tight rein on the proceedings during the morning-only sessions Oct. 9, 10 and 11. Those attending this year's meetings at Chicago's McCormick Place will be free at noon each day to roam the aisles of the huge exhibit hall and to visit the outdoor displays at Illinois Central's nearby 31st Street Yard.

Here, in brief, is the streamlined business schedule for the three-day membership meeting:

- **Wednesday, Oct. 9:**
  - Special announcements and appointment of committees.
  - Chairman's message.
  - Subject committee reports
    - (a) Training.
    - (b) Warehousing.
    - (c) Inventory control.
- **Thursday, Oct. 10:**
  - Presentation of 1963 essay contest awards.
  - Subject committee reports
    - (a) Standard packaging.
    - (b) Unit loads.
    - (c) Visual report (material-handling techniques).
    - (d) Car, locomotive, track and signal material (simplification and standardization).
- **Friday, Oct. 11:**
  - (a) Fuel and lubricants.
  - (b) Cross ties, seasoning and treatment.
  - (c) Scrap reclamation.
  - (d) Scrap disposition.
  - Steering committee
  - Committee on committees
  - Resolutions committee
  - Memorials committee
  - Nominations
  - Election of officers

The subject committee reports, representing as they do the current thinking of some of the most conscientious and dedicated men in the P&S Division, will demand the most attention during the business sessions of the 1963 meeting.

● **Report on training.** The lead-off report, that of Committee 1B, Training, is being heralded as one of the most significant reports ever to be made by a P&S Division committee. E-L's Mr. Bayer calls this report "a real contribution to our Division. It gives every evidence of being the result of long, careful and painstaking study. It is worthy of serious consideration by all in our Division. There are few, if any, railroads that will not be able to get considerable benefit from this report, depending upon their degree of adoption."

The committee on training, directed by Chairman Bob Cissne, inventory control manager, Rock Island, Silvis, Ill., was to "study . . . what educational programs are now being used by member roads or purchases and stores personnel." The group soon found that there "are very few continuing training programs in effect."

● **P&S-oriented programs.** Mr. Cissne and his committee decided to go beyond their assigned task and develop a workable guide for establishing P&S-oriented training programs where none are now in existence. "We recognize," this report states, "that the big job rests with the purchases and stores managements of each road to develop programs that fill their respective needs. Outside assistance can help in areas of human relations, communications, and so forth, but the basic responsibility for building a stronger departmental organization is yours."

The committee's recommended program for developing "competent supervision to effectively conduct the management of our inventory investment in the days ahead" undertakes to assist individual departmental officers to inventory their personnel requirements for the foreseeable future; to assemble the statistical tools needed to organize a training program; to select topics for discussion at group meetings; to determine how to supplement formal training with associated activities; to organize a workable, one-year study program, and to analyze the effectiveness of existing training programs.

● **Still under wraps.** While the report of the committee on training was made public as soon as it was completed early this year—so that P&S men could implement its proposals quickly—the ten remaining subject-committee reports will be made public at the meeting. These also show promise of making significant contributions to the upgrading of purchasing and stores operations.

A perennial favorite with the membership is the report of Committee 4D, visual report of actual application. Committee Chairman G. J. Zimbleman, assistant general storekeeper, Burlington, heading the smallest of this year's subject committees (nine members), has succeeded in collecting over 100 slides showing developments in materials-handling techniques. These will be shown as part of Committee 4D's report on Thursday morning, Oct. 10,

(*Continued on page 129*)

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Reports on training, inventory control on agenda

(Continued from page 127)
in the Lakeside Room at McCormick Place.

Some revealing statistics on the potential economies to be realized from a joint stock-protection plan where duplicating facilities now exist will appear in the report of the committee on warehousing. Committee Chairman H. C. Miller, assistant general purchasing agent, Illinois Central, and his group tabulated information on the value of stock protection maintained by four railroads having individual stores facilities in the same locality. This committee will have interesting comments to make about the cost of going it alone.

Mr. Miller and his committee will also report on their investigation of improved techniques in the distribution of material to points of use.

● **One path to profits.** Inventory control has probably received as much attention as any subject covered by a P&S subject committee in recent years. Any improvement in the method or system of controlling material purchased by a railroad can lead directly to profit, and for many railroads this is one of few areas remaining where significant cost reductions can be realized.

W. J. Eck, assistant vice president, purchases and stores, Chesapeake & Ohio, and chairman of the committee on inventory control, will report his group's findings following a four-way investigation into (1) new methods for improved inventory control, (2) methods for reducing the cost of returning surplus materials to suppliers, (3) a check list of items to consider in mergers or consolidations, and (4) different approaches to local-buying plans.

● **Packaging.** R. H. Cobb, C&O's assistant regional general storekeeper at Huntington, W. Va., directed the work of this year's committee on standard packaging (4A). This group's comprehensive study of various types of ordering quantities, to determine which are more economical and most efficient for handling and best suited for different commodities, will be discussed when it makes its report at 9 a.m., Oct. 10. Mr. Cobb and his committee will also make recommendations at this time for possible revisions in the P&S Materials Handling Manual.

Closely paralleling the work of the committee on standard packaging is the assignment of Committee 4B, unit loads. However, this group, under the chairmanship of Chicago & North Western's stores operation manager, V. G. Hesse, concentrated on ways and means to increase the use of palletization by suppliers and in the distribution of materials between the using departments and outlying stores points. Mr. Hesse and his committee will also report on the results of their meeting with suppliers in an effort to obtain their cooperation in making full use of palletization of their products.

● **Liaison with users.** The continuing liaison between P&S departments and the using departments on the railroads was supplemented again this year by the committee on simplification and standardization of car, locomotive, track and signal material. This group, directed by Committee Chairman R. R. Delaplane, assistant purchasing agent, Pennsylvania, will report on developments in standardizing many of the items in common use on most U.S. railroads. Notably, this committee will recommend improvements in diesel-fuel-oil-filtration systems.

Economy a must

With fuel oil and lubricants accounting for 20% to 25% of the railroad purchasing dollar, it is imperative that every potential economy in this area of P&S activity be thoroughly investigated so that maximum economies may be realized. The basic assignments of Committee 6A, fuel and lubricants, offered the opportunity to explore two important elements of the fuel-buying picture. Committee Chairman H. R. Breed, purchasing agent, Great Northern, will report on his committee's study into the practices of mixing or blending various brands of diesel lubricating oils and the study of buying procedures for securing gasoline and petroleum products for highway and off-highway motorized equipment. Mr. Breed's committee also undertook an additional assignment of investigating current practices for inspecting company-owned or contract tank cars used for hauling diesel fuel oil to determine the feasibility of securing credit for the residue of fuel oil in tank cars returned to refineries for refilling.

● **Cross ties.** Committee 6B, cross ties, seasoning and treatment, has undertaken the task of categorizing the different species of woods being purchased for cross ties and the methods used in seasoning ties. Chairman of Committee 6B, K. W. Phillips, purchasing agent, Maine Central, will also report on a study of methods and responsibility for inspecting cross ties and a roundup of new methods being used in the seasoning and treatment of ties.

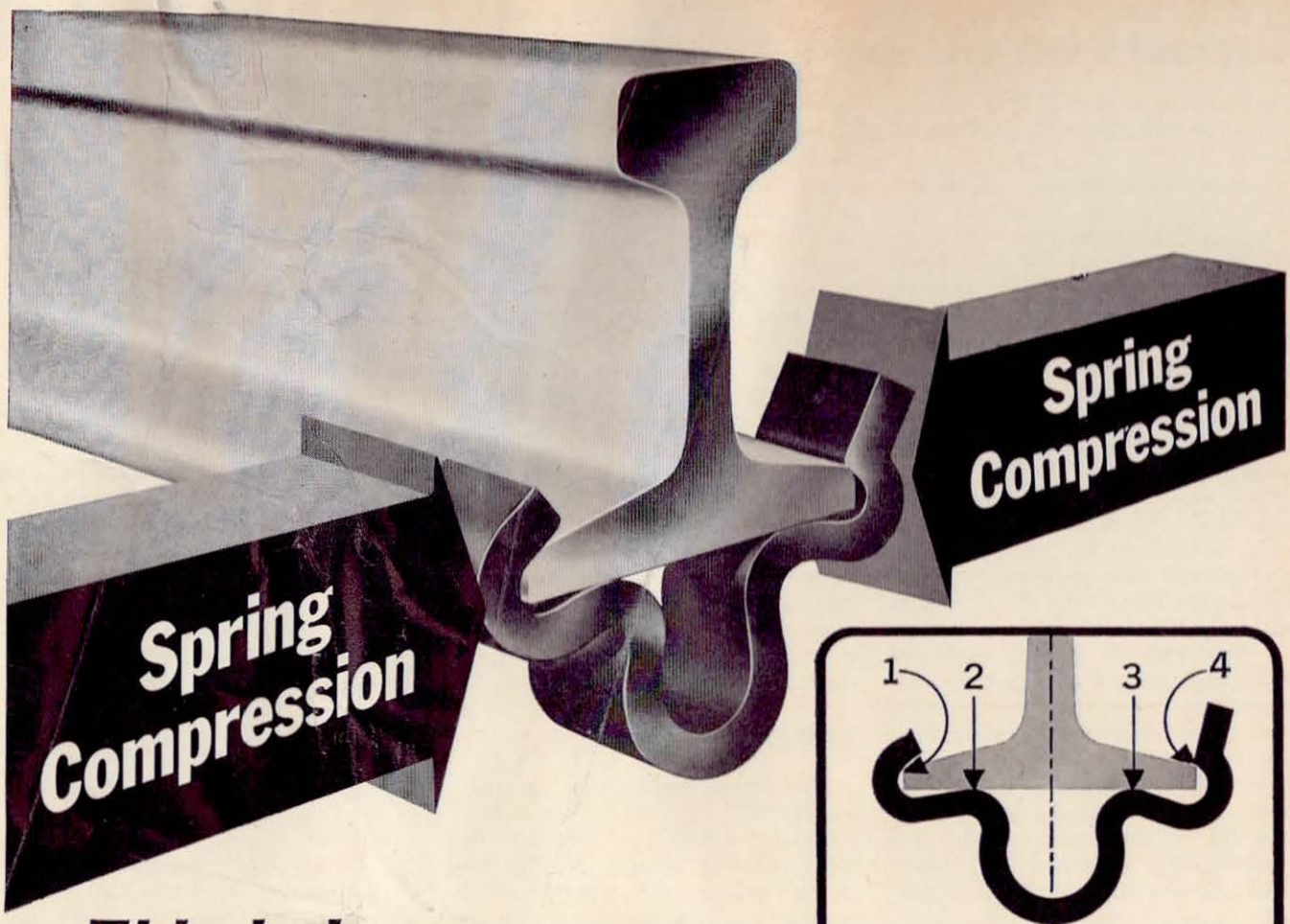
The final two committee reports that will be received on the third day of the meeting deal with related areas dear to the heart of every purchasing man eager to save a dollar for his railroad. The committee on reclamation, headed by G. J. House, general storekeeper, Erie-Lackawanna, will discuss the latest developments in methods of salvaging such items as journal-bearing wedges, train-line end valves, load-protective crossmembers, angle cocks and diesel cylinder heads.

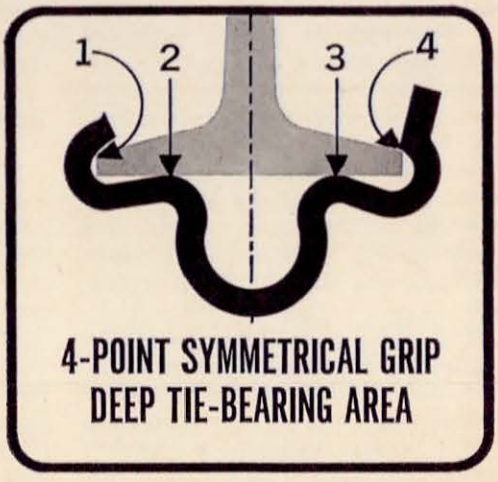
● **Scrap preparation.** The basic task of Committee 9C, scrap disposition, was to report only on "new methods, means or devices for handling and disposing of ferrous and non-ferrous scrap." However, Committee Chairman G. B. Morris, assistant to general purchasing agent, Canadian National, and members of his committee took on three additional tasks which will be discussed in their report. Of the three, the most valuable to those directly concerned with scrap disposal will be the group's report on its discussions with major scrap dealers in an effort to elicit suggestions for ways of improving scrap preparation by the railroads.

● **Essay awards.** The highlight for at least three men attending the 1963 annual meeting will come as the second day's round of business leads off with the presentation of awards in the 1963 P&S Division essay contest.

Merton W. Peters, gang leader for the Santa Fe at Topeka, Kan., will be awarded a $150 bond for his essay on "Developing Effective Supervision." Placing second, in the opinion of the judges, was Donald H. Rettinger, industrial engineer, purchases and stores, Missouri Pacific, who wrote on "Five Steps to Effective Inventory Control." Third prize winner was Kenneth M. Vrshek, traveling storekeeper, Illinois Central, who used as a subject "Blanket Orders vs the General Storehouse." Mr. Rettinger will receive a $100 bond, and Mr. Vrshek a $50 bond.

When the awards have been given out, the committee reports completed, and the gavel raps to mark finis to the 36th annual P&S Division meeting, the work will just be starting for incoming Chairman Curt Bayer. As he receives the gavel from retiring chairman F. J. Steinberger, he and his standing committees will already have set in motion the groundwork leading to the 37th annual meeting, tentatively scheduled for May 5, 6 and 7, 1965, at the Palmer House in Chicago. The city will be the same, the cast will be little changed—but the setting will not match the glamor attendant on the 1963 meeting and the American Railway Progress Exposition.





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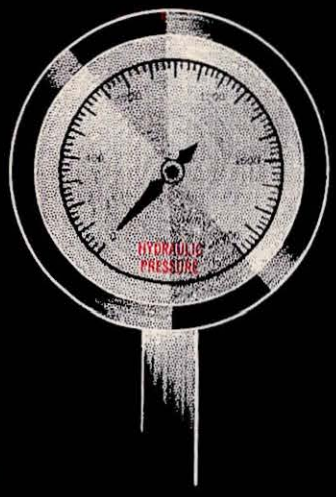

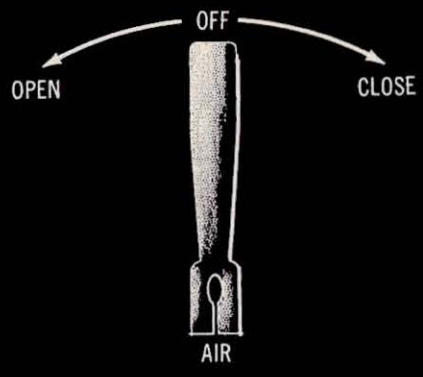

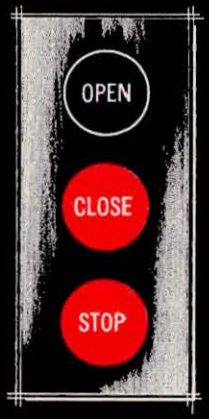

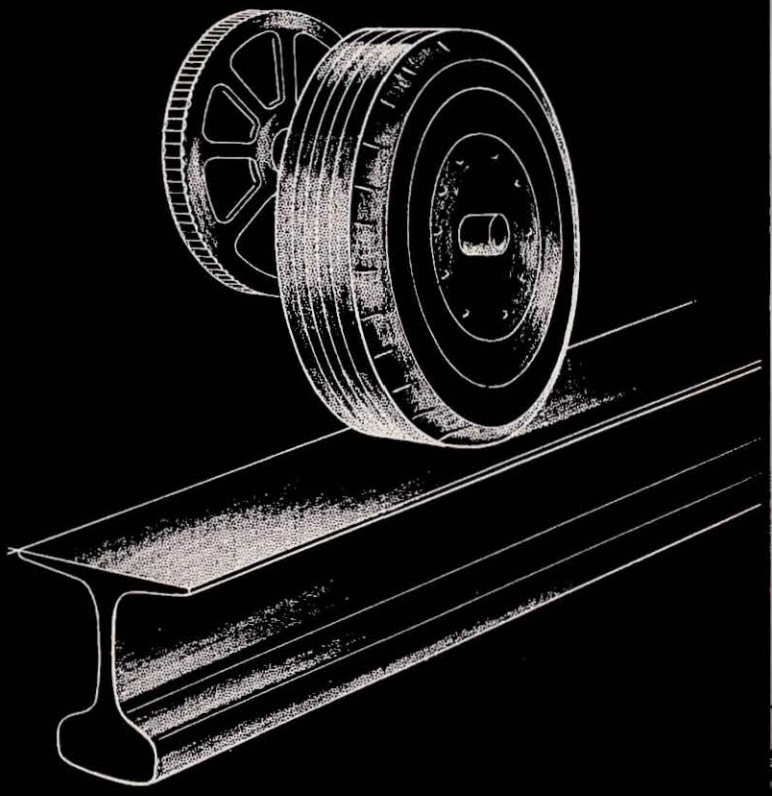

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The horizontal design is also ideal for undercar installation. This is particularly important for ice car conversion. You can get 10 inches or more rail clearance.

Witte Models 100 and 120 use less fuel than other refrigerator car engines. Pintle type, single orifice fuel injection nozzles and precombustion chamber design are two of the many features that contribute to longer life, less maintenance, lower noise level and adaptability to lower grade fuels.

The Models 100RDA, 12½ KW and 120RDA, 17½ KW are furnished with direct coupled, 230-volt, 3-phase, 60-cycle, inherently regulated, brushless generators.

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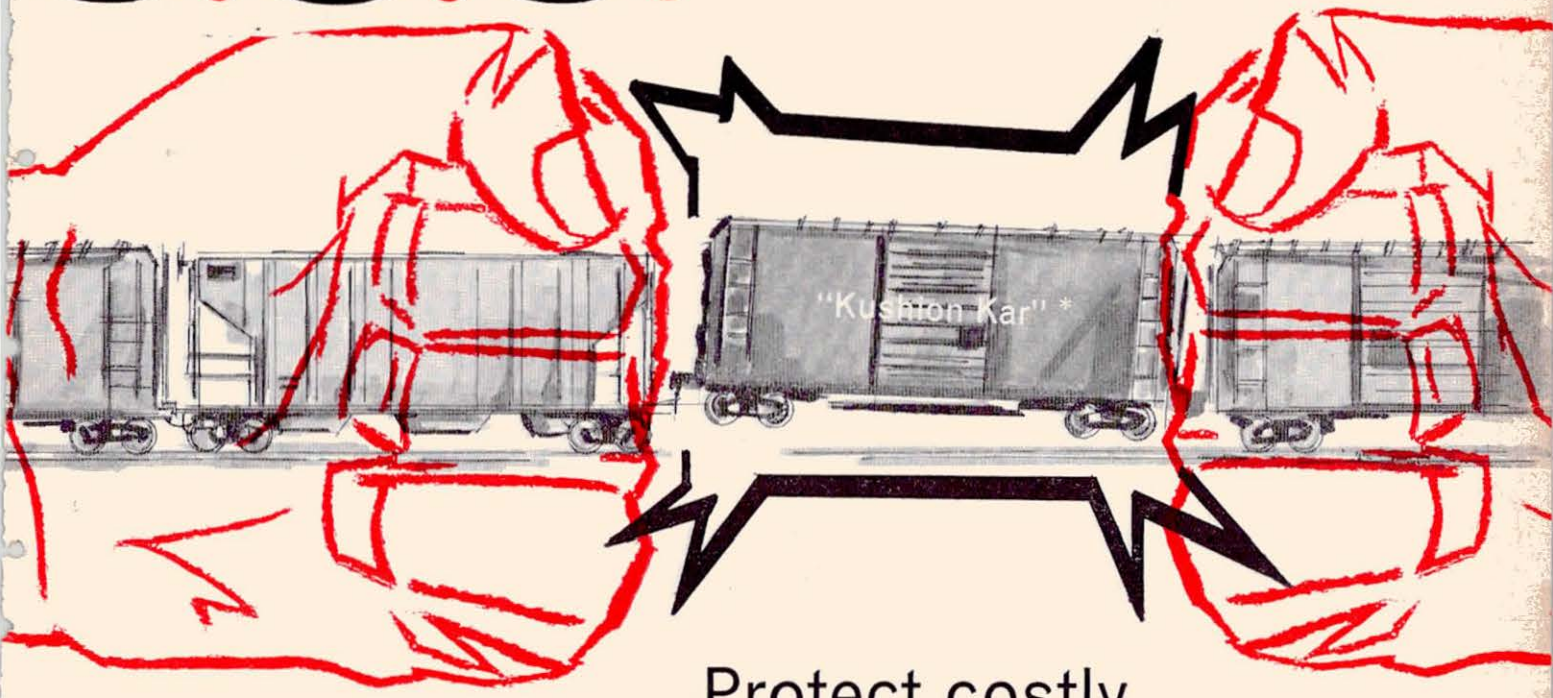

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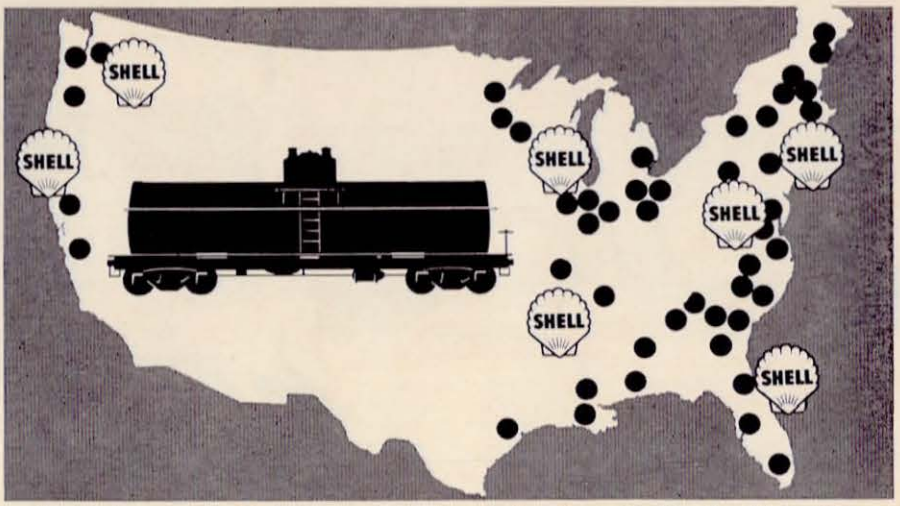
The Shell symbols on our map locate Shell's field Railroad Sales Offices. Each is staffed by a *Shell Railroad Representative* (names, phone numbers, below). Shell has had a full-time staff of these specialists serving railroads for more than 25 years. They have the entire Research and Development facilities of the Shell Companies at their disposal.



(Dot) indicates major Shell Terminal. (Shell symbol) indicates Shell Railroad Sales Office.

47 Major Shell Railroad Products Terminals

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Martinez
Wilmington

FLORIDA
Jacksonville
Port Everglades
Port Tampa

GEORGIA
Atlanta

ILLINOIS
Wood River

INDIANA
East Chicago
Muncie
Zionsville

KENTUCKY
Paducah

LOUISIANA
Norco
Marero

MAINE
Searsport
South Portland

MARYLAND
Baltimore

MASSACHUSETTS
Fall River
Waltham
West Boylston

MICHIGAN
Detroit

MINNESOTA
St. Paul
Winona

MISSOURI
Cape Girardeau

NEW HAMPSHIRE
Newington

NEW JERSEY
Sewaren

NEW YORK
Rensselaer
Syracuse

NORTH CAROLINA
Charlotte
Greensboro
Wilmington

OHIO
Cleveland
Columbus
Lima

OREGON
Willbridge

PENNSYLVANIA
Macungie

SOUTH CAROLINA
Charleston
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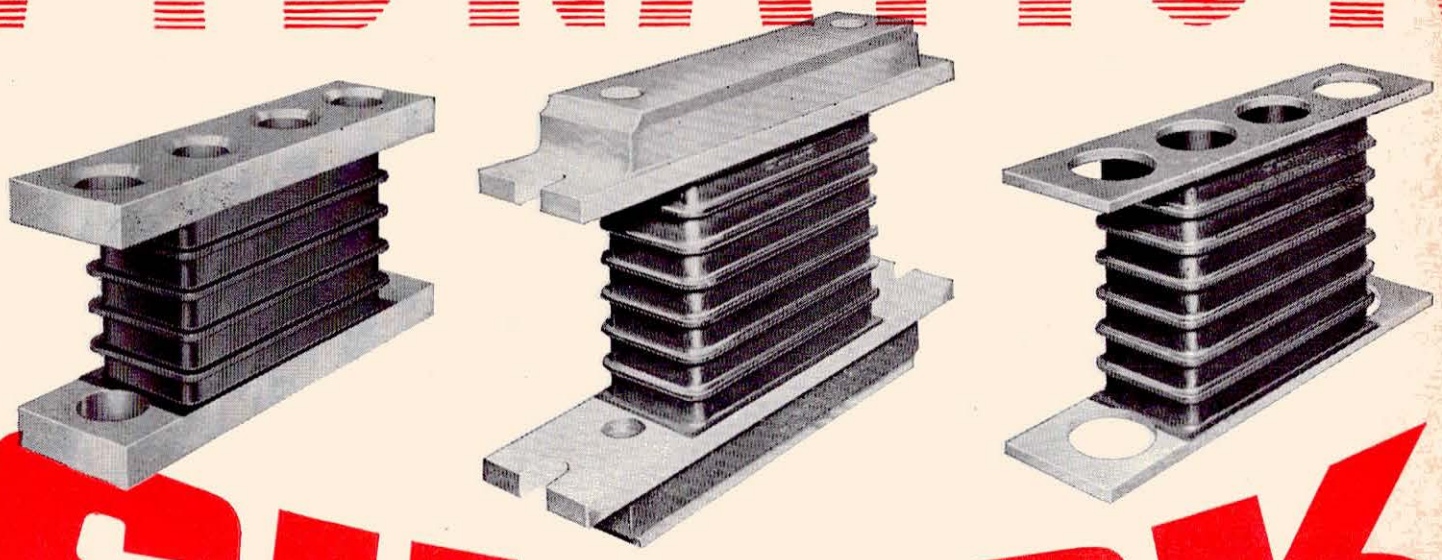

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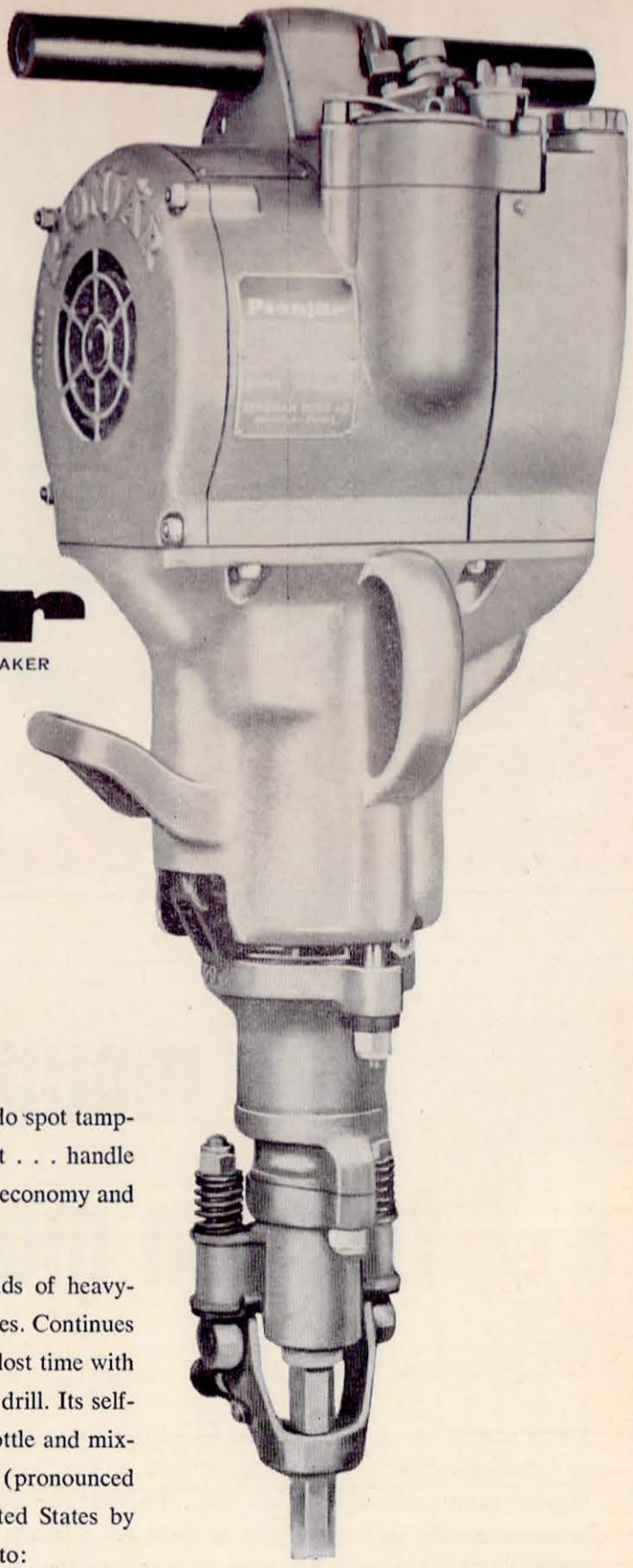

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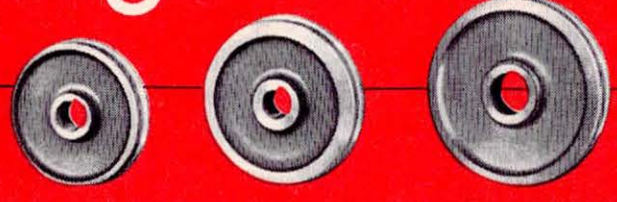

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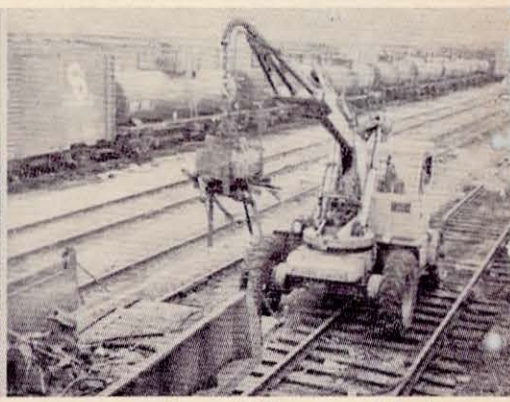

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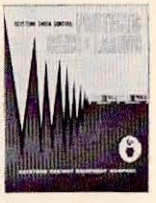

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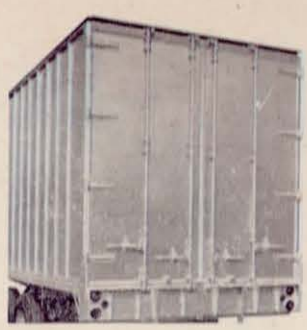
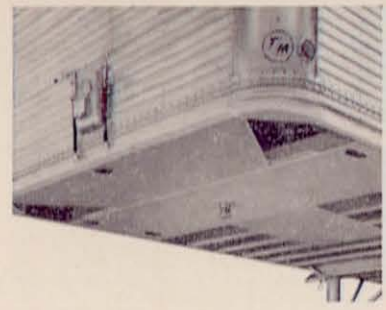
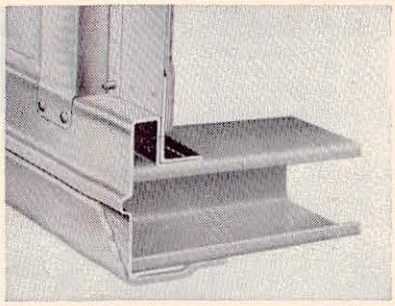


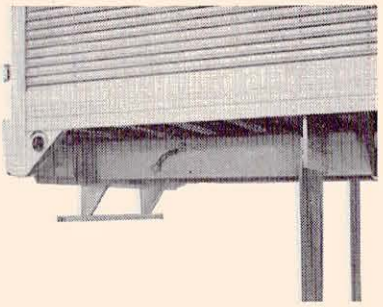
Extra strength at the rear!
One-piece plymetal doors with four locks guard against load shifting or other impacts encountered in railroad service.



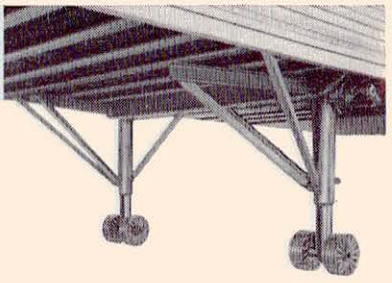
Extra strength in the coupling area!
A ¼" steel apron protects trailer bolsters from damage when flatcar stanchion is raised to anchor the kingpin.



Extra strength in the frame!
Outer rail reinforcements permit the trailer to be safely lifted onto flatcars (by crane or travel lift).



Extra strength in the sub-frame!
Heavy-duty rail extensions give better floor support and provide a strong anchor for tie-down loops.



Extra strength at the prop!
Heavy-duty landing gear uses heavier gauge steel and has additional bracing from legs to floor bolsters.

These Trailmobile piggyback "extras"...

add extra profit to piggyback operation

In engineering trailers for piggyback service we like to put a little extra in—in terms of strength—so you can take a little extra out—in terms of profit!

The "extras" we introduce come in the form of a special package of piggyback features which were developed and proved in extensive piggyback testing—a package of **six special features** that provide **solid** protection in all areas of stress encountered in this kind of service. That's why you can count on Trailmobile piggyback trailers to protect your revenues against costly down-time and needless repairs . . . to return more while you use them . . . and more when you trade them.

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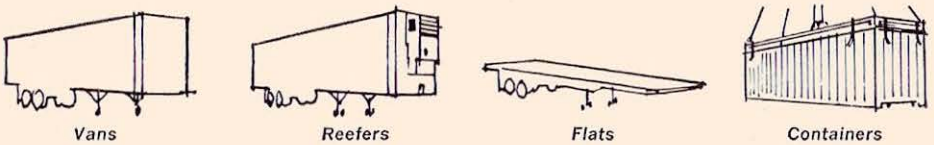

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URETHANE PANELS*

(*Patent Pending)

INCREASE INSULATION EFFICIENCY
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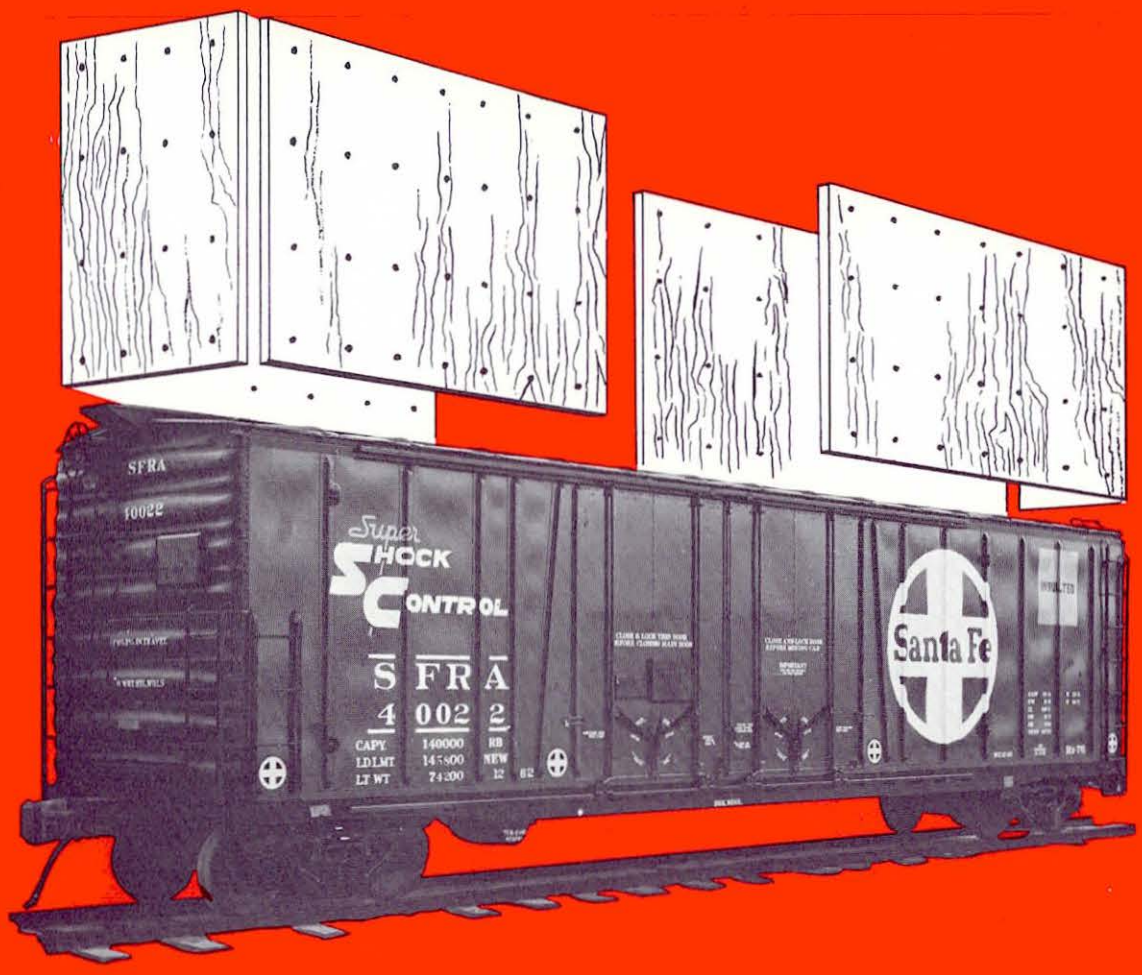
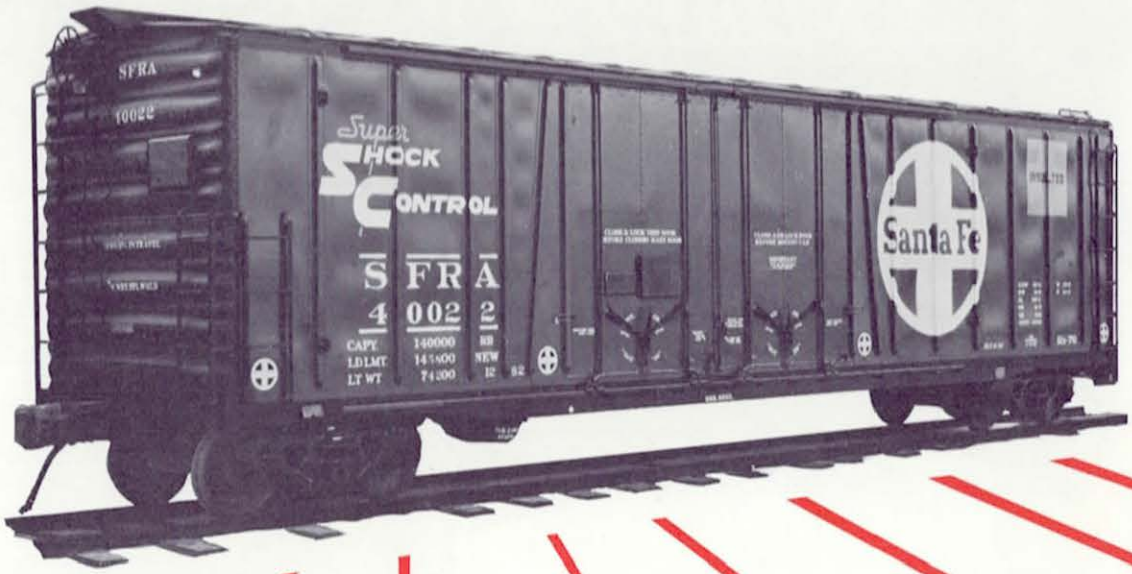
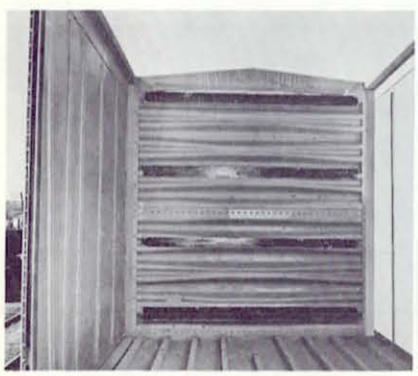


Landreth Pre-fabricated Urethane Panels* Guarantee No Voids

(*Patent Pending)

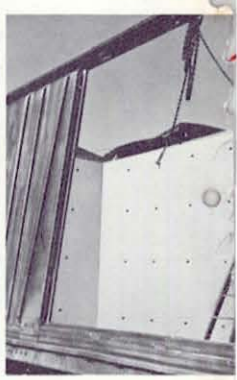




1. Interior of one of the new Santa Fe Insulated Box Cars before installation of the Landreth Pre-Fabricated Urethane Panels* (*Patent Pending).

2. Workmen lowering end panel into place.

3. Workmen lowering side panel into place.



4. Workmen fitting side panel into place.

Santa Fe went all the way . . . 100 new insulated box cars lined with exclusive Landreth Pre-Fabricated Urethane Foam Panels* (*Patent Pending).

Through Landreth's years of research and development has come this revolutionary new urethane foam panel which increases insulation efficiency and reduces labor costs at the same time.

Six completely pre-fabricated panels make up the car set. Easy to install, saves many man hours in installation, thereby reduces your ever increasing labor costs.

Through scientific research and accelerated tests, it has been found that the insulating qualities of urethane foam improves with age—does not deteriorate.

Technically speaking urethane foam is produced by mixing certain resins with a diisocynate and fluorocarbon gas under proper conditions. The resulting reaction is a foam that expands to over 30 times its original volume and is self-extinguishing.

Urethane foam's most important characteristic for insulation is its K factor, a term that defines the measured rate of heat transmitted through a substance. The lower an insulation's K factor, the better it is. Factory-fresh urethane can have a K factor as low as 0.11 (BTU's/sq. ft./hr./°F/in.) at 70° as compared to 0.23 for conventional insulation.

Over 90 per cent of urethane's cells are closed, which stops moisture pick-up and condensation before it can begin.

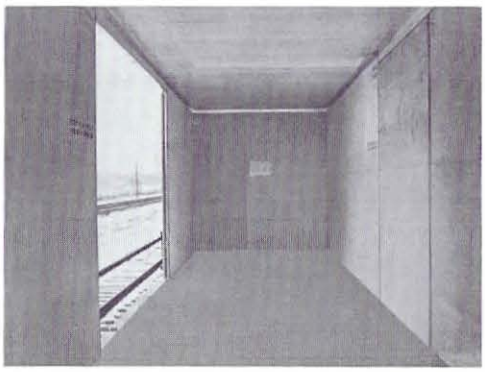
Urethane will not rot, is vermin proof, non-toxic, odor free, and resists chemicals that normally dissolve ordinary conventional insulation.

Landreth Pre-Fabricated Urethane Foam Panels* (*Patent Pending) provide superior insulation efficiency while using only one-half as much material as conventional insulation.

Landreth INDUSTRIES, INC.

5. Workman fastening Nelson stud to outside post.

6. Workman inserting bolt to thread of stud which when tightened secures panel to side of car.

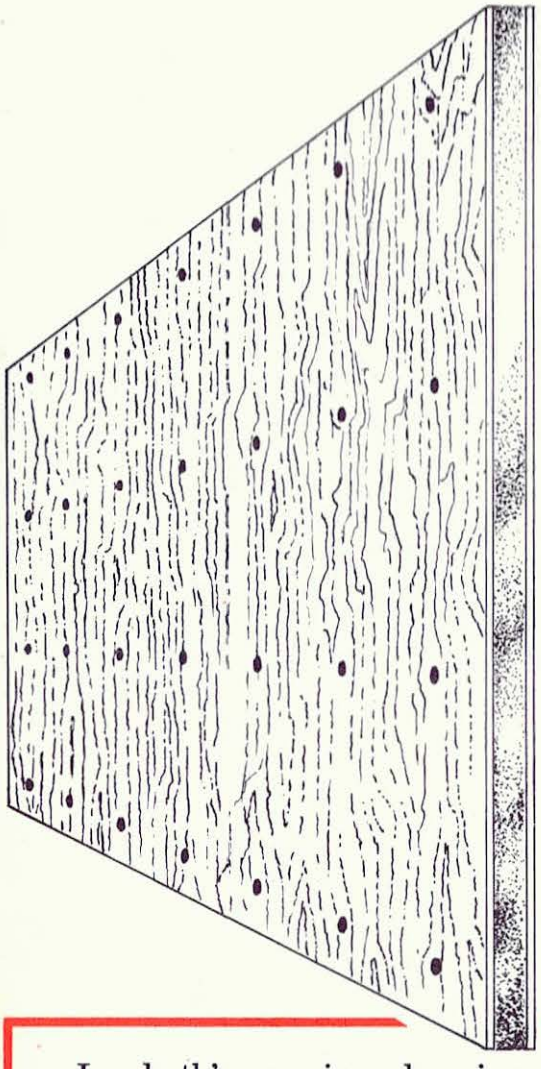


7. Finished car. All holes filled with Urethane foam plugs—smooth interior finish.

Landreth Pre-fabricated Urethane Foam Panels*

(*Patent Pending)

Offer All These Benefits



SUPERIOR INSULATION

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- Completely Pre-Fabricated
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- Seamless Vapor Barrier
- No Air Infiltration
- No Localized Hot Spots
- Easy Repairs
- Self-Extinguishing Foam
- Affords greater payload area (more internal cube)
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- Low K Factor 0.13—*CURED*
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- Odor Free and Non-Toxic
- Fungus and Rot Proof
- Added Structural Rigidity
- Improves With Age—Does Not Deteriorate

Landreth's experienced engineers have devoted years of research and development to perfect this new urethane foam panel. These new Landreth Urethane Foam panels are manufactured under quality controlled laboratory conditions to insure the proper processing to provide the highest quality panel available on the market today. The plant is kept at a minimum of 90° and after the foam is poured in the jigs, the panels are immediately put into an oven at 130° for 20 minutes to cure.

HIGHEST QUALITY CONTROLLED PANEL ON THE MARKET TODAY

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332 South Michigan Avenue Chicago, Illinois Phone: 922-5864

Suppliers' group to map '64 campaign

RPI plans a vigorous membership drive, dues reduction, and stepped-up legislative action.

The Railway Progress Institute will be gathering steam for what may be its most important year at the Institute's annual meeting this week. RPI is lowering its annual dues and girding for an all-out campaign to swell its membership rolls in 1964, a year in which it will increase legislative activity, study the "peaks and valleys" of railway purchasing—and keep a watchful eye on the upward trend of suppliers' sales and profits.

The meeting will be held at 9:30 a.m., Wednesday, Oct. 9, in Room 12 of McCormick Place. It will be one of the first sessions on the program of the American Railway Progress Exposition.

● **Selection of dues reduction plan.** The dues reduction is expected to be announced at the meeting by RPI Chairman John D. Cannon. The Executive Committee last month considered six plans which RPI President Holcombe Parkes said "would eliminate inequities that exist in the present classification and increase membership by reducing the annual dues." All of the proposed dues schedules will be based on sales to railroads during the past year; the present schedule is based on average sales of the past three years.

● **Contest award.** The winner of the 1963 Golden Freight Car Award for outstanding freight-traffic promotion by a railroad will be announced at RPI's annual dinner. More than 1,000 RPI members and guests are expected to attend the black-tie affair Oct. 9 in the main ballroom of the Conrad-Hilton Hotel. Purpose of the contest, as RPI says, is "to give recognition to railroads and their personnel for outstanding use of effective sales-promotion and advertising techniques to sell railroad freight service; to spotlight effective methods of selling and promotion that will be of help and value to the entire industry; to foster the increased use of modern sales and merchandising methods to sell railroad freight service; and to help promote greater freight-traffic volume for the railroad industry."

● **Suppliers' business bullish.** RPI's meeting comes in the midst of what appears to be a boom year for railway suppliers. Railroad capital spending this year is expected to top $1 billion, nearly $200 million more than was spent in 1962 and $350 million more than in 1961. Car orders may total 55,000 for the year, which would be an eight-year high. At mid-year most suppliers reported both sales and profits up sharply, and the forecast was for the upward trend to continue through the second half of 1963 and possibly into 1964.

The small boom, however, comes on the heels of several years of depressed railroad spending, and RPI is joining with the AAR Purchases & Stores Division to study the peaks and valleys of railroad purchasing. The joint RPI-P&S committee probably will concentrate on maintenance-material purchases, the area where P&S men think they can get quick results. Purchases in the "additions-and-betterments" category, such as rolling stock, the P&S Division feels, "are difficult to control from a purchasing standpoint, as there are too many factors that must be taken into consideration." Maintenance materials, the Division says, "can be held to a point where more uniform buying can be expected. The inventories of all railroads in the country are at a low level, and we feel if these inventories are held at this lower level and not allowed to pile up, that the chance of even and steady monthly buying is possible."

● **Capitol Hill activity.** RPI has stepped up and broadened its legislative activity this year and is now considering opening a Washington office when Congress begins its second session. The RPI Public Affairs Council, which went on record in support of the arbitration bills in the work-rules dispute, may develop into a central unit for all railway supply organizations. RPI earlier this year met with representatives of non-RPI supplier groups to set up a unified legislative program which would be implemented through the Public Affairs Council. The plan is still in the discussion stage.

Mr. Parkes at the last Executive Committee meeting proposed a three-point, short-range program in which RPI would "re-energize the Public Affairs Council and its activities," a step which is termed "an accomplished fact;" secure the active cooperation of the members of other railway-supply organizations in legislative efforts, and establish a Washington office "to coincide with the opening of the second session of the 88th Congress, if this seems desirable in the light of future developments." The last proposal will be studied further before action is taken.

● **Internal elections.** The Executive Committee will meet at 10:30 a.m., Thursday, Oct. 10 in Private Dining Room 5 of the Conrad Hilton. RPI's Governing Board is scheduled to elect 1964 committee members at the meeting, with all seven members of the committee expected to be re-elected.

The terms of nine members of the Governing Board expire this year, and a tenth seat has been vacant. Two members, A. R. Bruce and Frank Speno, Jr., are not up for reelection.

The Nominating Committee has recommended the other seven members for re-election: F. D. Barber, president, Standard Car Truck Co.; L. A. Crone, president, Buffalo Brake Beam Co.; R. L. Duchossois, president, Thrall Car Manufacturing Co.; W. A. Gray, Jr., executive vice president, General Steel Industries, Inc.; W. W. Heimberger, president and general manager, Buckeye Steel Castings Co.; F. J. Schroeder, president, Magor Car Corp.; and P. W. Smith, president, General Railway Signal Co.

First-term slate

Recommended for a first term are C. A. Danielson, president and board chairman, Cardwell-Westinghouse Co.; B. W. Crenshaw, president, Scullin Steel Co.; and Robert J. Drewniak, president, Alex Railway Products Co.

J. G. Lyne, chairman, Simmons-Boardman Publishing Corp., and L. A. Bonar, executive vice president, Alexander & Alexander, Inc., have been recommended for re-election as special-class governors. Frank Richter, executive vice president, Watson Publications, has been recommended for a first term. The Governing Board elects the Executive Committee from its own members.

● **Other business.** In addition to the election, the agenda of the annual meeting will include reports from RPI committees on passenger traffic, piggyback and containerization development, foreign trade, public affairs, mergers and industry sales, executive development and railway-supply financing. Messrs. Cannon and Parkes will review the Institute's activities during 1963 and outline plans for 1964. Reports also will be made on RPI finances and membership.

The supplier organization will operate a Railway Progress Institute Service Center (Booth 23) during the Exposition.

WATCHING WASHINGTON WITH WALTER TAFT

TAFT

● **PREDICTION** that Congress won't pass the minimum-rate bill at this session has just come from Chairman Laurence K. Walrath of the ICC. The bill would implement that recommendation of President Kennedy's transportation program which calls for the ending of minimum-rate regulation for rail, truck and air transportation of commodities in bulk, the water transportation of which is now free of all regulation, and for rail, water and air transportation of agricultural products, the truck transportation of which is now exempt. The railroads regard this proposal as the heart of the President's program, but it is opposed vigorously by water carriers and truckers. The Commission, too, is opposed. It urges, instead, enactment of the so-called alternative proposal to increase regulation by repealing the present exemptions.

THE PRESIDENT'S TRANSPORT MESSAGES to Congress have noted the availability of this alternative approach to equitable competitive conditions. Administration spokesmen, however, have identified it as the President's "second choice," emphasizing that he prefers the minimum-rate bill's deregulation approach.

COMMISSIONER WALRATH'S GUESS that there will be no action this year, of course, is in line with predictions of many other informed observers. A top Washington representative of the railroads nevertheless told Railway Age last week that he has not given up hope—in view of indications that the present Congressional session may continue until the end of the year.

THE COMMISSION'S CHAIRMAN made his prediction in a talk before the Florida Fruit and Vegetable Association. He also spoke about that phase of the Commission's position which favors repeal of the bulk-commodity exemption, saying that might have got through Congress if the railroads had not abandoned it to embrace the deregulation proposal.

THE RAILROADS have had something to say about that. Speaking for the industry before Congressional committees holding hearings on the minimum-rate bill, Chairman Ben W. Heineman of the North Western called the increased-regulation proposal politically unrealistic—"doomed to failure, as it has been doomed to failure when proposed by the railroads every year for the past 20 years." Mr. Heineman pointed out that no shipper or farm organization would support it, but they are supporting the minimum-rate bill.

A "SOPHISTICATED" PROPOSAL is what Mr. Heineman calls that bill. He explains that it is "politically sophisticated" because it appeals to the self-interest of shippers and farmers, and "economically sophisticated" because it recognizes a major problem of the railroad industry—that of building traffic volume up to the capacity of its plant.

MESSRS. WALRATH AND HEINEMAN gave their views again at the current series of further hearings on the minimum-rate bill which are held by the Senate Commerce Committee's Surface Transportation Subcommittee. Chairman Walrath spoke for the Commission. Mr. Heineman joined Presidents Daniel P. Loomis of the AAR, D. W. Brosnan of the Southern and Jervis Langdon, Jr., of the Baltimore & Ohio in making the railroad presentation.

Congress can spur buying

Passage of rate-freedom bill would up RR traffic, profits.

Favorable Congressional action on President Kennedy's transportation program should make railroading more profitable, and thus greatly increase the industry's ability to take advantage of the new technology shown at Chicago.

It's axiomatic that profitable railroads are the biggest spenders for new equipment and other facilities. Increased capital outlays usually come in the aftermath of good-earnings years. That's the pattern of the past decade when the only billion-dollar years for capital expenditures were 1956 and 1957, coming after the only two years of the decade (1955 and 1956) in which net railway operating income exceeded a billion dollars.

The President's program has been before Congress 1½ years, having been submitted first with Mr. Kennedy's Transportation Message of April 5, 1962. Except for the proposed federal aid for urban mass transit, which has cleared the Senate, the bills to implement the program have not advanced beyond the committee-hearing stage.

● **Rate deregulation.** The railroads have endorsed the entire program, but they are interested principally in the so-called minimum-rate bill. That is S.1061 in the Senate and H.R.4700 in the House. It would end ICC and Civil Aeronautics Board powers to fix minimum rates for the transportation of commodities in bulk by rail, truck and air, and for railroad, water and air transportation of agricultural and fishery products.

The President advanced these proposals as a politically realistic approach to equal competitive opportunity under present conditions which include the so-called bulk-commodity and agricultural exemptions. These, in turn, leave water transportation of commodities in bulk and truck transportation of agricultural and fishery products free of all regulation. The President's proposal would not provide full equality, because it would not extend this complete freedom. Breakthrough though it would be, it would still leave the ICC and

CAB with their other regulatory powers over the traffic involved, and it would assign the antitrust laws a more important role then they now have with respect to transportation rates.

● **Omnibus bill.** Several of the other Presidential recommendations would be implemented by enactment of another bill—the proposed Transportation Act of 1963, which is S.1062 in the Senate and H.R.4701 in the House. Among its many provisions is that which would specifically authorize regulatory authorities to permit rate experiments and thus sanction such innovations as "guaranteed" railroad rates, which have been condemned by the ICC. (These would permit rate reductions in return for guaranteed tonnage.)

When the Transportation Message arrived, some of the President's recommendations were already before Congress in separate bills, and they have not been incorporated into these so-called "Kennedy bills." Among such proposals are the urban transit bill, and bills embodying the President's call for establishment of user charges on publicly-provided inland waterway facilities and increased fees for use of the government's air-transport facilities.

Railroad presentations to Congressional committees in support of the Presidential recommendations, especially the minimum-rate bill, have pointed up how the proposed rate freedom would result in increased traffic. The presentations contemplated that this additional traffic would be profitable business, and that it would encourage railroads to increase their expenditures for modern facilities.

● **'Big John' case.** Among these presentations was the statement of D. W. Brosnan, president of the Southern, who told of that road's struggle to make its "Big John" grain rates effective. These rates are now in effect, but only because Southern has appealed to the courts from an ICC order requiring that they be increased.

Testifying last June before the House Committee on Interstate and Foreign Commerce, Mr. Brosnan noted that the rates became effective the previous month after having been held up by the ICC and court proceedings for nearly two years. Between May 11 and May 27, Southern handled 185 cars under the multiple-car rates and 2,371 cars under the related single-car rates.

"An example of the effect of these rate adjustments," Mr. Brosnan said, "is that, on these shipments, Southern collected $914,772. At rates which the barge interests, and large grain dealers hauling their own grain in their own barge operations, sought to keep in effect, the charges would have been $2,148,177. The saving to the public amounted to $1,233,405."

● **Gamble paid off.** Mr. Brosnan went on to call the business which the new rates attracted "highly profitable." Of the $914,772 gross, "I estimate that we took down $374,600 net before taxes," he said. At the same time, however, he also emphasized the risk a railroad takes in buying new equipment when there is uncertainty as to whether rates to operate it profitably will be approved by the regulatory authorities. Of that gamble, Mr. Brosnan had this to say:

"Although these rates are now in effect . . . they could be killed . . . As long as the final settlement of these rates is being contested, it is hazardous for farmers and other beneficiaries of these rates to make investments in storage bins, new mills, the expansion of cattle raising or to undertake other ventures . . .

"I want to point out that when we published these rates it was necessary that the Southern provide cars to make the rates operative. We acquired more than 500 of these 'Big John' cars as the minimum number necessary to protect the anticipated demand. The cost was in excess of $13 million.

"I assure you that this purchase was a real risk, but one that had to be taken. Because we felt that the customers were entitled to the large savings and that Southern was entitled to compete for the business, I authorized the acquisition of the cars. There has never been any doubt that the people were entitled to have this low-cost service, and that Southern could make a handsome profit, but I submit that we were required to run a needless risk which we still face.

"Less determined people could have been discouraged . . . I also point out that Southern was forced to take a risk that is not required of any other mode of transportation."

● **Multi-level triumph.** Southern's experience is only one example of what has to be done under present conditions to take full advantage of technological improvements. Another example is the industry's experience in introducing multi-level cars for automobile traffic. That involved the fight against the trucking industry's undertaking to have Congress emasculate the 1958 Transportation Act's rate-freedom provision, as proposed in the "Hoffa Bill," so-called because of the enthusiastic support it had from James R. Hoffa, general president of the International Brotherhood of Teamsters.

While traffic now moving by private and exempt carriage, principally by truck, is the big potential, much business could be taken from regulated trucks if they persist in playing the role of "creamers." Their choice of that role is evident from figures showing average

(*Continued on page 152*)

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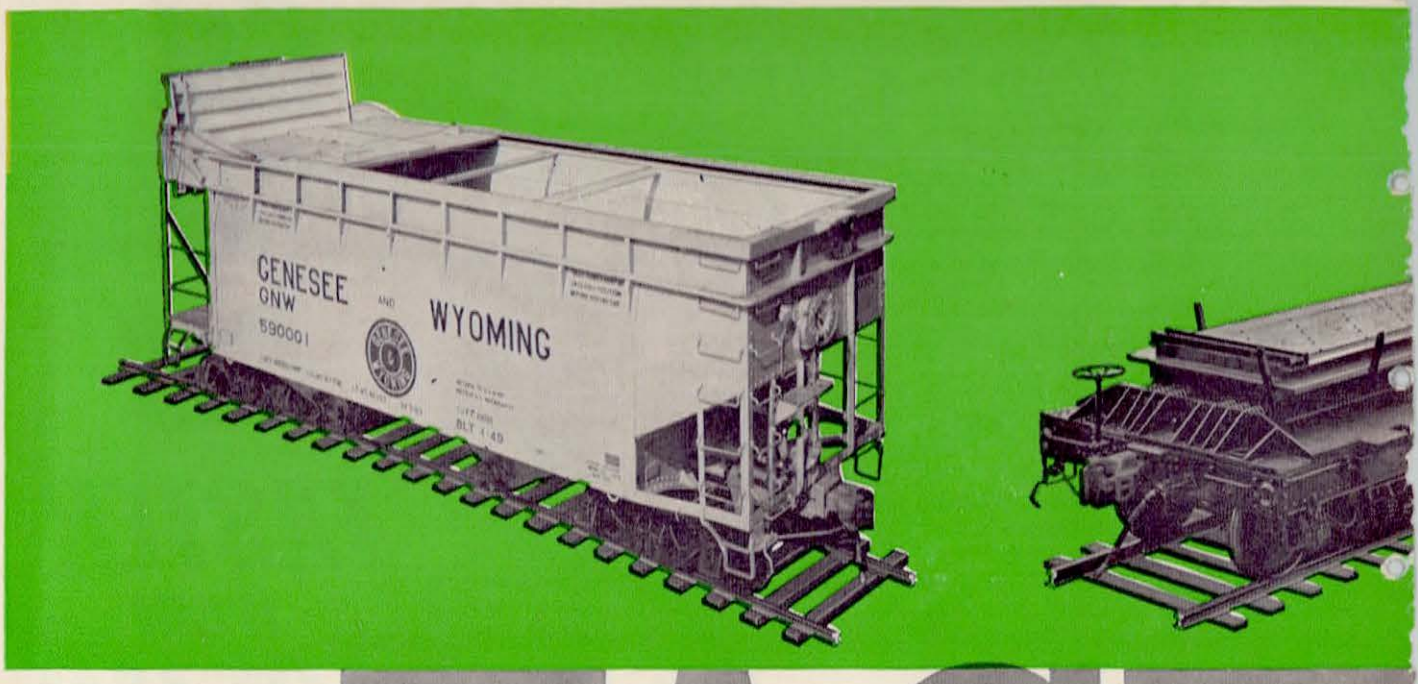
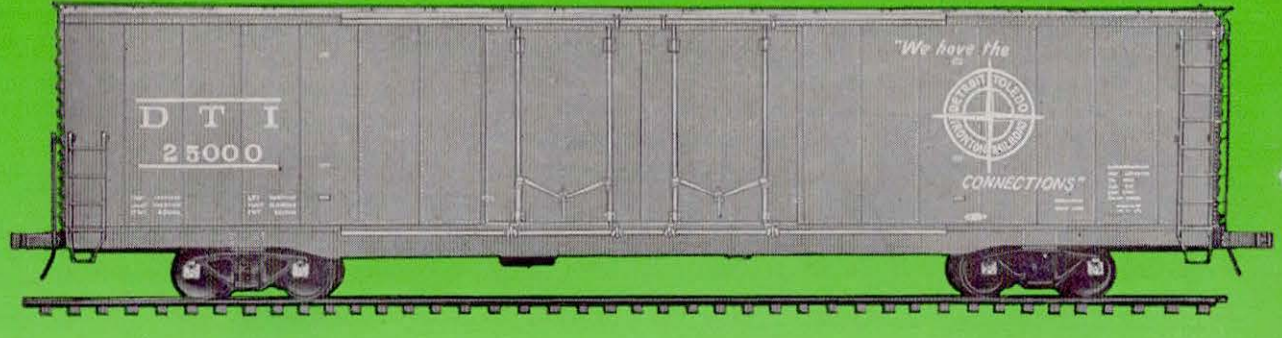
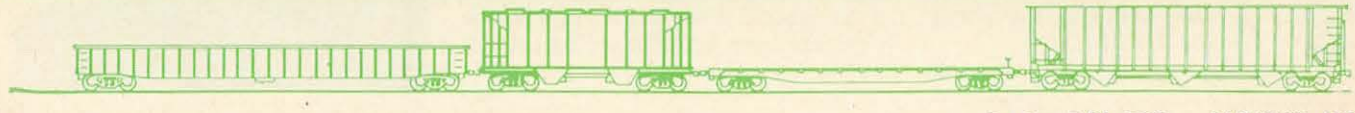
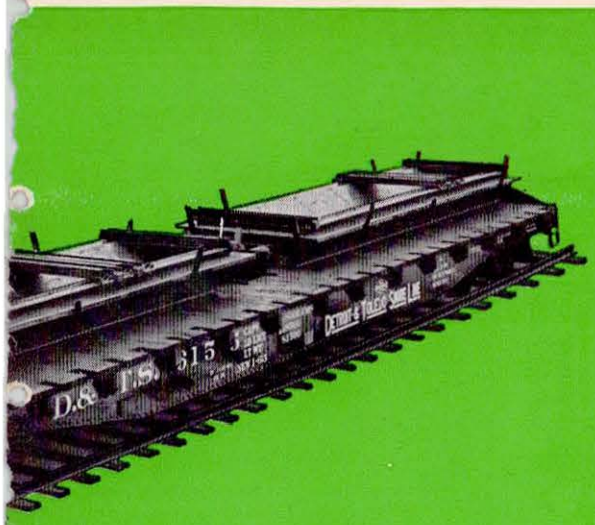
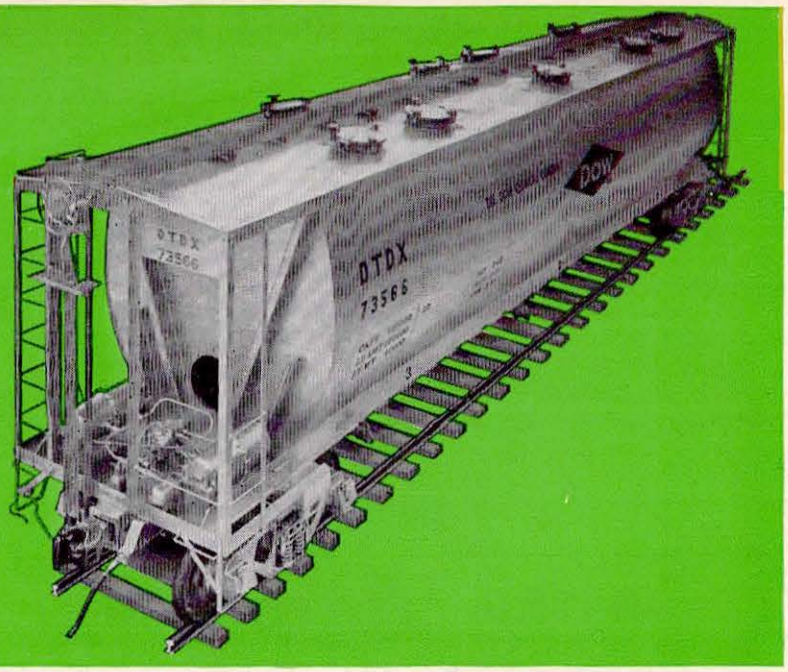


HANDLE KEY CARGO FAST









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Suppliers back the carriers' contentions

(*Continued from page 149*)
revenues per ton-mile. The latest compilation of such figures by the ICC's Bureau of Transport Economics and Statistics indicates that the truckers' ton-mile "take" is about four times the rail average—more than six cents as compared with about 1½ cents.

This spread is what some students of the rate structure consider an area of opportunity for the railroads. It spotlights the truckers' vulnerability to tailored rate-making calculated to build volume and thus maximize railroad net earnings. Like all such prospects for building profitable traffic, this, too, assumes that such railroad undertakings would not be thwarted by regulatory authorities.

● **Suppliers back carriers.** The supply industry, of course, knows all this. Like the railroads, it has gone all-out for the President's program. This position was recorded with interested Congressional committees this year in statements by John D. Cannon, chairman of the Railway Progress Institute.

Mr. Cannon had figures pointing up how the fortunes of the supply industry are tied to fortunes of the railroads, and how important the supply industry is to communities where its numerous plants are located. Other supply-industry associations are also in the fight, their legislative activities being coordinated through RPI's Public Affairs Council.

These appraisals of the present situation as one which inhibits railroad capital expenditures have just been confirmed by findings of an independent research organization—the National Research Council of the National Academy of Sciences. The Council's recent report on "Science and Technology in the Railroad Industry," though it had much to say about self-help actions the railroads could take, also concluded that "the railroads' technological response to shippers' demands is severely constrained by external social and political forces." Another conclusion of the report was more specific, saying that railroad pricing policies "have been handicapped by . . . regulatory restrictions."

● **Necessary risks.** In another place, the report noted the railroads' problem of developing credible cost information, but it coupled the notation with reference to the fact that the industry's freedom to establish rates "is sharply limited by the regulatory authority of government." The report added that "even apparently valid rate quotations by the carriers are often subject to disapproval by the Interstate Commerce Commission." The Council also agreed with Southern's Brosnan that investment in new equipment under present regulatory conditions is a gamble. The report said:

"Shippers and the more progressive carriers agree that great promise is held out by the development of incentive rates for volume shipments. When such rates are delayed for months or even years, however, in the risky and cumbersome approval process of the Interstate Commerce Commision and the courts, it takes a very venturesome railroad management to gamble large sums on the research, development, and production of the equipment on whose performance incentive rates can be based."

● **Managerial prerogative.** Other similar comment in the report included a statement that the government's failure to extend the bulk-commodity and agricultural exemptions to railroads has confronted them with inequitable competition, both legal and illegal. This followed a finding that railroads have

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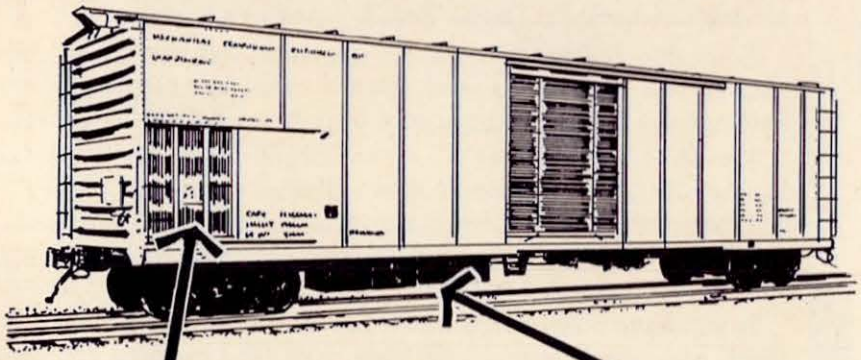

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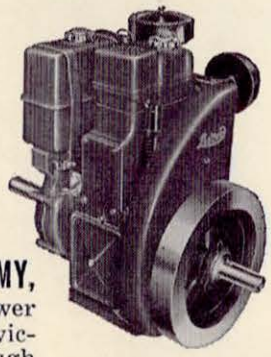
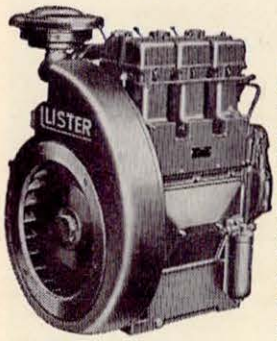


Lister Model SL1, 4.25 HP @ 1800 RPM for blower applications.



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much less freedom than most other U.S. industries "for managerial decision in pricing services, abandoning uneconomic operations, concluding mergers or developing integrated systems."

The report also said:

"The railroad industry is now in a desperate situation from which it cannot extricate itself unaided. Historically the industry possessed a monopoly . . . As competitors appeared, they were subject to much less regulation and often were subsidized, while rail regulation changed very slowly. As a result the railroads do not now serve the share of the total transportation market they could gain in a freely competitive situation. . . .

"Better application of available science and technology would undoubtedly help the railroads and should proceed, but this would not solve the basic railroad problems. The more fundamental need is for the government to remove competitive handicaps while railway managements cooperate to reduce costs and increase their share of the transportation market."

● **The outlook.** That, of course, is what President Kennedy's program contemplates. As to prospects for enactment of the implementing legislation, it is perhaps too late in the session to get action this year. The longer-run outlook, however, is more optimistic. The proposed legislation has the real appeal of being defensible as sound economically and fair and equitable. Those opposing it are forced to defend the present inequitable situation, of which they are beneficiaries, and to argue that lower transportation costs, and thus lower prices to the public, would be bad.

While it takes more time than agreed-on proposals, sound controversial legislation does get through Congress. There was, for example, the Transportation Act of 1940, which brought water carriers under regulation, and the Transportation Act of 1958 with its rate-freedom and train-off provisions.

The opposition of truckers and water carriers is of the all-out variety, but the railroads have powerful supporters. They include the National Industrial Traffic League and other shipper interests—and now the unions representing railroad employees.

This labor support, which came only last month from the Railway Labor Executives' Association, is a real breakthrough. RLEA had previously opposed the minimum rate bills. Its new position was announced by its chairman, G. E. Leighty, in letters to the chairmen of the Senate Commerce Committee and the House Committee on Interstate and Foreign Commerce—Senator Warren G. Magnuson (D-Wash.), and Representative Oren Harris (D-Ark.).

● **Hopeful sign.** Washington representatives of the railroads are applauding the RLEA action. They interpret it hopefully as a sign that the union leaders may hereafter be with management in supporting measures to improve the industry's economic health. Such support for their industries has been the policy of leaders heading unions representing railroad competitors, notably General President Hoffa of IBT.

As to the present session of Congress, the President's program got sidetracked while the Magnuson and Harris committees shaped up the resolution which barred the threatened strike in the work-rules controversy. And the Senate committee has also been preoccupied with interstate-commerce phases of the President's civil rights program.

The House committee has concluded its hearings on the transport bills, but the Senate committee's hearings were in session last week.

PROGRESS REPORT

SPENO

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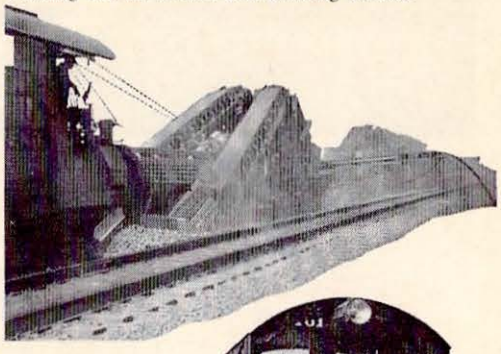

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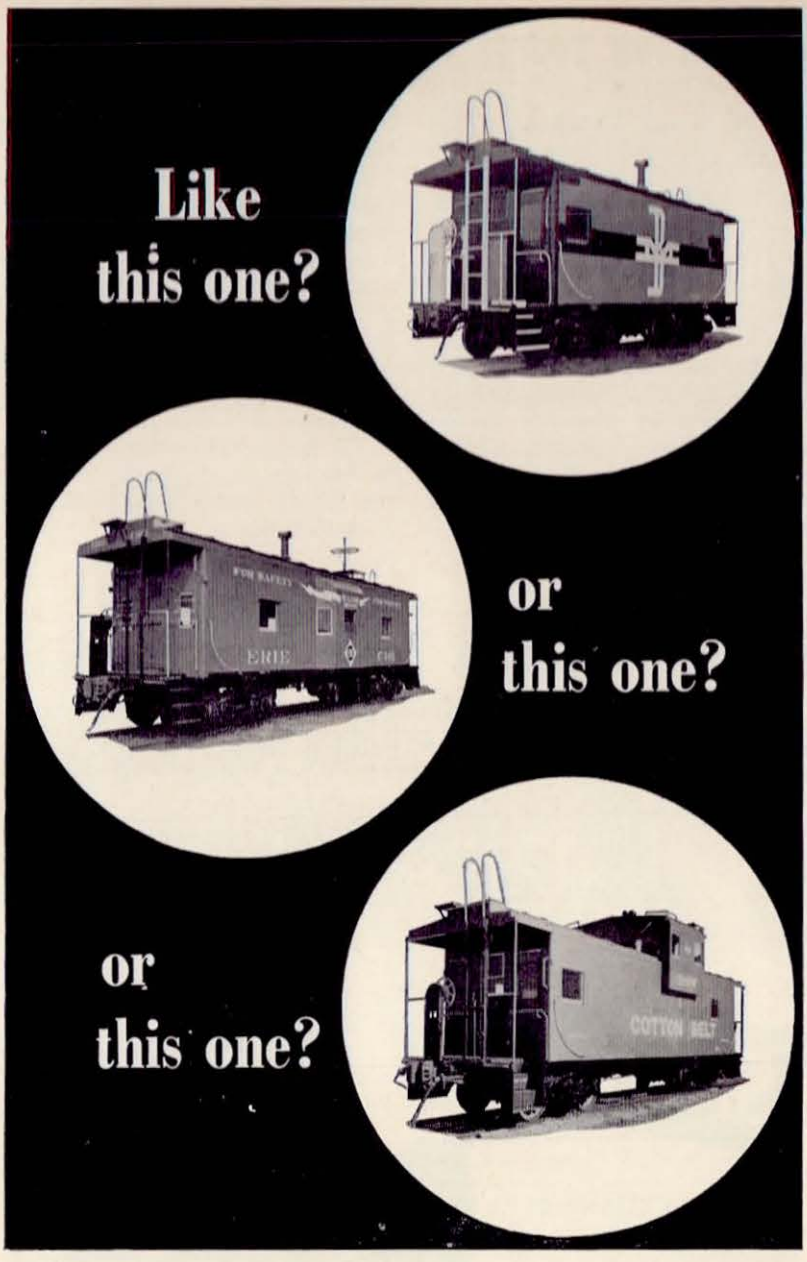

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E. J. Hasten, Jr., W. B. Reed—Chicago, Ill.

PEOPLE

AMERICAN SHORT LINE RR ASSN.—On Sept. 10, **James I. Collier, Jr.,** elected general counsel, ASLRRA, 2000 Massachusetts Avenue, N.W., Washington 6, D.C. Mr. Collier has been associated with the firm of Todd, Dillon & Sullivan, Washington, since Jan. 1962, prior to which he was commerce counsel for the Central of Georgia and attorney—advisor with the Interstate Commerce Commission.

ATLANTIC COAST LINE.—**D. E. Wright** appointed trainmaster, Jacksonville Terminals, Jacksonville, Fla.

W. E. Free, office engineer, Jacksonville, Fla., appointed principal assistant engineer there, succeeding the late **W. L. Hartzog. H. S. Lipsey** named office engineer.

BALTIMORE & OHIO.—**Clarence E. Jackman,** assistant vice president—operation and maintenance, Baltimore, Md., appointed chief operating officer, effective Oct. 15. Mr. Jackman succeeds **Charles E. Bertrand,** vice president—operation and maintenance, who has been elected executive vice president, **Reading,** Philadelphia.

BURLINGTON—**H. T. Mann,** assistant director, employee benefit services, Chicago, appointed director, employee benefit services, succeeding **L. F. Annable,** retired (RA, Aug. 19, p. 38).

BOSTON & MAINE.—**William J. Ahearne,** manager of labor relations, Boston, named director of labor relations and personnel.

CANADIAN NATIONAL.—**G. D. McMillan,** superintendent transportation, British Columbia Area, Vancouver, appointed assistant operations manager, Prince George, B.C. **T. G. Owen,** superintendent transportation, Calgary, Alta., succeeds Mr. McMillan. **M. K. Dagg,** trainmaster—road foreman, Prince Rupert, transferred to Prince George, succeeding **K. R. Mason,** transferred to Calgary. **K. G. McDonald,** chief train dispatcher, Kamloops, B.C., succeeds Mr. Dagg. **S. A. Merryfield,** trainmaster-road foreman, Smithers, transferred to Jasper.

J. H. Richer, assistant manager, Champlain area, Montreal, appointed manager there, succeeding **J. F. Roberts,** transferred to the Montreal area, succeeding **J. E. Brenan,** promoted.

H. Robert Young, freight sales analyst, Montreal, appointed to the newly created post of freight sales promotion officer, Great Lakes Region, Toronto, Ont. **E. S. Doan** appointed terminal traffic manager, express freight, Regina, Sask., succeeding **A. W. Fowlow,** retired. **Roy H. Joslin,** superintendent of express, Toronto, appointed express planning officer, Great Lakes Region, Toronto. **Lewis A. Wood,** administrative assistant, Montreal, succeeds Mr. Joslin.

A. S. Batho, regional bridge and structures engineer, Prairie region, Winnipeg, retired after 40 years with the CN.

CANADIAN PACIFIC.—**J. U. Brazeau,** assistant general manager, Atlantic region, Montreal, appointed vice president and general manager of that region, succeeding **J. R. Strother,** transferred to the Eastern region, Toronto, Ont. Mr. Strother succeeds **G. E. Mayne,** who retired Aug. 31 because of ill health. **G. E. Benoit,** manager, **Quebec Central,** Sherbrooke, Que., succeeds Mr. Brazeau as assistant general manager, Montreal. **F. S.**

James I. Collier, Jr.
ASLRRA

Clarence E. Jackman
B&O

J. U. Brazeau
CPR

G. E. Benoit
CPR

Champagne, assistant superintendent, Laurentian division, CPR, Trois Rivieres, Que., succeeds Mr. Benoit at Sherbrooke.

F. J. James appointed chief of tariff bureau, Atlantic and Eastern regions, Montreal, succeeding **G. J. Wheatley,** who retired Sept. 30 after over 51 years' service.

CHAMBER OF COMMERCE, UNITED STATES.—Dale W. Hardin, former Congressional liaison officer for the Interstate Commerce Commission, joined the staff of the C of C of the U.S. on Sept. 9 as manager, Transportation and Communication department. He succeeds **Gerald W. Collins,** named executive vice president, National Defense Transportation Association.

CHESAPEAKE & OHIO.—W. C. Taylor appointed assistant freight service manager, Huntington, W. Va.

H. O. Kerns, III, appointed assistant superintendent freight claim prevention, Richmond, Va. Abolished position of assistant to manager station service and freight claim prevention, formerly held by **H. L. Butler,** now retired.

A. S. Tatum appointed general agent, Newport News and Norfolk, Va., succeeding **L. E. Nelsen,** retired.

M. A. Clarke appointed transportation engineer, Detroit, Mich. Abolished post of assistant to principal transportation assistant, formerly held by Mr. Clarke.

CHICAGO GREAT WESTERN.—F. A. Bigley appointed general claim agent, Oelwein, Iowa, succeeding the late **G. N. Reilly.**

DENVER & RIO GRANDE WESTERN.—The following retired Aug. 31: **Robert E. Davis,** general freight agent, Denver, Colo.; **Charles B. Lowry,** assistant to western traffic manager, San Francisco, and **Walter A. Siebert,** district freight and passenger agent, Detroit.

DEPT. OF THE ARMY—OFFICE OF CHIEF OF TRANSPORTATION.—Brig. Gen. Edward W. Sawyer, U.S. Army chief of transportation, promoted to major general.

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DETROIT, TOLEDO & IRONTON.—**John E. Chubb,** regional manager, Northern region, **Pennsylvania,** Buffalo, N.Y., appointed president of the DT&I, Dearborn, Mich., succeeding **David E. Smucker,** named vice president—operations, Pennsylvania, Philadelphia.

ERIE-LACKAWANNA.—**Samuel B. Gill** appointed assistant chief engineer—construction, Cleveland. Abolished position of assistant chief engineer—engineering, formerly held by Mr. Gill. **Loyal R. Henderson** appointed division engineer, Marion division; **James P. Morrissey** named assistant division engineer, Marion division; and **Wilson D. Slater** named transitman, all at Marion. Mr. Henderson was formerly assistant engineer maintenance of way, Cleveland. Mr. Morrissey was division engineer and Mr. Slater was assistant division engineer, both at Marion.

J. F. O'Connor appointed system rules examiner. **Michael H. Rozelsky, Jr.,** named inspector of operation, Cleveland. Position of special study assistant is abolished.

FLORIDA EAST COAST.—**J. L. Callaway** appointed mechanical engineer, St. Augustine, Fla. **S. D. Smith** named superintendent diesel maintenance. **S. R. Baker** and **J. M. White, Jr.,** appointed general diesel foreman. **L. S. Williams** named general foreman.

ILLINOIS TERMINAL.—**D. B. Hill,** superintendent, Alton, Ill., retired Oct. 1.

JERSEY CENTRAL LINES.—**Robert G. Hamlin,** manager of industrial development, Jersey City, N.J., appointed property manager there, succeeding **Philip M. Parker,** who retired Aug. 31. **John T. Veal,** assistant to president, named real estate agent, Jersey City.

Walter W. Robinson appointed manager of industrial development, Jersey City, and **Howard J. Page** named to succeed Mr. Robinson as industrial agent there. **Robert J. Benson,** district freight agent, Philadelphia, Pa., succeeds Mr. Page as assistant division freight agent, Long Branch, N.J.

LEHIGH VALLEY.—**W. E. Lehr,** superintendent motive power, Sayre, Pa., appointed chief mechanical officer there. **C. C. Treese,** assistant superintendent motive power—car, appointed superintendent car equipment. **C. P. Turner,** system supervisor diesel operations and maintenance, named superintendent locomotive equipment. **E. J. Pace** appointed general car inspector.

The maintenance of way and signal forces were departmentalized under direction of the chief engineer on Sept. 1. Abolished positions: engineer maintenance of way and bridge engineer, Bethlehem, Pa.; division engineer at Jersey City, N.J., and Buffalo, N.Y.; office engineer at Jersey City; and assistant engineer at Wilkes-Barre, Pa.

Appointments made: **J. H. Fitzpatrick,** assistant chief engineer, Bethlehem; **W. H. Reed,** engineer of structures, Bethlehem; **W. P. Clark,** and **F. J. Cavan,** district engineers at Jersey City and Buffalo, respectively; **G. C. Reich,** assistant engineer, Jersey City.

LOUISVILLE & NASHVILLE.—**E. H. Civils,** assistant superintendent, Chattanooga division, Atlanta, Ga., advanced to superintendent of the division, succeeding **T. J. Hale,** who retired Sept. 16. Mr. Civils' successor is **C. F. Anderson,** division engineer, Evansville, Ind., who in turn is replaced by **L. A. Logsdon,** assistant division engineer, Mobile, Ala. **K. J. Ludwig,** assistant engineer, Louisville, succeeds Mr. Logsdon.

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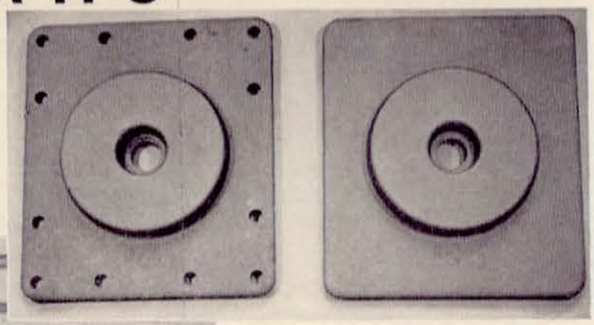

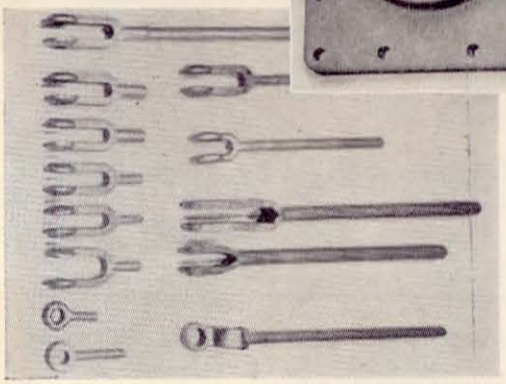

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The Best in Forgings and Fabrication

A. F. Hohmann, assistant to general coal freight agent, Louisville, Ky., appointed general coal freight agent there, replacing **H. Nelson Devol,** who retired August 31 after more than 49 years of service.

H. C. Daulton, chief supervisor, loss and damage prevention, Louisville, appointed manager special services, with jurisdiction over safety, freight loss and damage prevention and car utilization matters.

MAINE PORT AUTHORITY.—Robert V. Bennett, chief of the tariff bureau, **Maine Central,** Portland, Me., appointed rate and traffic consultant and solicitor, Maine Port Authority, Maine State Pier, Portland.

MILWAUKEE.—M. L. Benzer, assistant engineer of tests, appointed chief engineer of tests, Milwaukee Shops, Milwaukee, Wis., succeeding **H. H. Melzer,** advanced to assistant chief purchasing officer, Chicago (RA, Sept. 16, p. 38).

NEW YORK CENTRAL.—Robert C. Marquis, division transportation superintendent, Indianapolis, Ind., appointed director of service planning, New York. Mr. Marquis will be responsible for coordinating the analysis, development, establishment and performance control of transportation and auxiliary services oriented to the needs of NYC customers.

W. T. Molloy appointed assistant supervisor car maintenance—freight, New York. **Robert M. Bloomfield** named production control analyst, New York.

NICKEL PLATE.—H. P. Thinnes, general manager, Cleveland, appointed vice president and general manager. **Vernon E. Coe,** general superintendent, named assistant general manager. **Gail R. Bowman,** vice president—operation, Cleveland, retired Sept. 30, after 53 years with the Nickel Plate.

Lyle F. MacMillan, general agent, at New Haven, Conn., appointed assistant general freight agent, Cleveland, succeeding **L. S. Reece,** who retired Sept. 1, after 56 years of service. Mr. MacMillan will specialize in piggyback sales and service. **Stanley A. Drolette,** traffic representative, New Haven, succeeds Mr. MacMillan.

M. D. Hill, assistant secretary, Cleveland, named corporate secretary, succeeding **J. N. Dillen,** who died Sept. 11. **J. A. Collyer,** a secretary in Mr. Dillen's office, appointed assistant secretary of the road.

NORFOLK & WESTERN.—Royce A. Cornell, general agent, Charleston, W. Va., promoted to general western freight agent, Chicago, succeeding **C. Walter Burns,** who retired in April. **Robert E. Foster,** commercial agent, Winston-Salem, N.C., succeeds Mr. Cornell.

PENNSYLVANIA.—David E. Smucker, president, **Detroit, Toledo & Ironton,** Dearborn, Mich., appointed vice president—operations, Pennsylvania, Philadelphia, succeeding **James P. Newell,** who retired Oct. 1 after 36 years with the PRR (RA, Sept. 30, p. 7). Mr. Newell has been president of the Trailer Train Co. since its inception.

READING.—Charles E. Bertrand, vice president—operations and maintenance, **Baltimore & Ohio,** Baltimore, Md., elected executive vice president, **Reading,** Philadelphia, effective Oct. 15 (RA, Sept. 30, p. 76).

Arthur C. Palmer, acting division engineer, Reading, Pa., appointed division engineer there on Sept. 1.

REA EXPRESS.—M. Stanley Cogan, assistant vice president, International Department, New York, retired Sept. 1. **Robert J. Fletcher,** vice president, executive department, ap-

"We developed this cleaner —for a friend of ours"

"This is our new inertial separator which we call the DynaVane. It handles large volumes of air at high velocities with a minimum of pressure drop.

"One of our railroad friends came to us and requested just such an air cleaner — and one that wouldn't require any maintenance. He wanted to keep snow from entering the engine compartments of his locomotives. The DynaVane was so successful in not only keeping snow out, but also dirt, that it has been adopted by railroads for year 'round service.

"If you've got a problem, let us help you solve it. The chances are good that we'll find you another DynaVane.

"That's how most of the products in our line were developed. People in our engineering department found an answer to other people's problems. That's why over 85% of diesel locomotives in America today are equipped with one or more Farr products."

R. S. Farr

PRESIDENT, FARR COMPANY, LOS ANGELES
MANUFACTURERS OF FILTRATION EQUIPMENT FOR THE RAILROAD INDUSTRY

How to select the one you need . . .

There are now eleven ways to load or unload RR rack cars

Kaiser Jeep Corporation (formerly Willys Motors, Inc.), Toledo, loads multi-level automobile racks with both mobile and stationary loaders, designed and manufactured by Buck Equipment Corporation, Cincinnati.

Here's the latest data on equipment now available for cutting costs when loading/unloading automobiles and trucks on railroad rack cars:

The 4 basic units

Your rack car loader/unloader will be one of 4 basic designs:

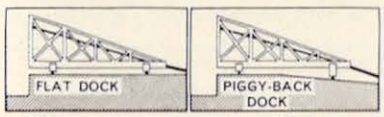
stationary unit
rail-mounted unit
mobile unit
flatcar-mounted unit

Where you plan to use your unit will determine which basic design you need. Other requirements (such as capacity) will pinpoint an exact model.

Stationary units for high traffic

The unit shown in the foreground of the above picture is a stationary unit. (Buck Model ULCR, one of 2 stationary units available.) Mounted permanently on piles in a fixed position, stationary units are used where a high volume of loading/unloading traffic dictates a separate unit for each spur.

Rail-mounted unit for several spurs



Want to serve several parallel spurs? Consider a rail-mounted unit. (5 different ones are available from Buck.) The rail for the loader is set perpendicular to the spurs, permitting lateral movement. A rail-mounted unit is recommended only when total traffic at all spurs is low enough to be handled by one unit. Models are available for mounting on either flat or piggy-back docks.

Mobile units: flexible

Mobile units can be moved anyplace . . . eliminate turn-around to unload front end first. Background of top photo shows a Buck trailer-mounted Model TUL-CR. Two other mobile units are available, both self-propelled.

Flatcar unit goes where needed

A flatcar-mounted unit can be made available at points where unloading traffic doesn't justify a permanent installation. The Buck Model ULCDR shown above handles loading/unloading of all decks of tri-level or bi-level racks from dock or directly to ground.

Handling automobiles or trucks?

If you're handling only automobiles, select an 8,000 or 12,000 lb. unit. Or, for trucks, a 20,000 lb. capacity unit. Models in both capacities are available from Buck.

What auto rack are you using?

Doesn't matter. All Buck units are standardized for use with all makes of racks, including: Dana; Darby and Evans; Paragon; Whitehead and Kales.

What about dependability?

These people are now relying on Buck loaders/unloaders: Atlantic Coast Line RR; Burlington Lines; Baltimore & Ohio; Canadian Pacific; Chicago Northwestern Railway; Chrysler Corp.; Cotton Belt; Denver & Rio Grande Western RR; Erie Lackawanna RR; Florida East Coast Railway; Ford Motor Co.; Frisco; General Motors Corp.; Illinois Central RR; International Equipment; Kaiser Jeep Corp.; Louisville & Nashville RR; Maryland Port Authority; Milwaukee Road; New Jersey, Ind. & Ill.; NY, New Haven & Hartford; Pennsylvania RR; Quanah; Rock Island Lines; St. Louis Southwestern Railway; Santa Fe; Seaboard Airline RR; NY Central; Studebaker Corp.; Texas & Pacific Railway; Union Pacific RR; Wabash RR.

Shouldn't you be on the list?

THE ELEVEN BUCK MODELS NOW AVAILABLE

BASIC DESIGN	MODEL NO.	CAPACITY, LBS.	DECK SERVED		
			1st	2nd	3rd
Stationary units	ULCR	8,000	X	X	X
	ULCRT	20,000	X	X	X
Rail-mounted units (ground level)	ULCRM	8,000	X	X	X
	LUL-CR	12,000*	X	X	X
Rail-mounted units (on dock)	ULSD	8,000		X	X
	LUL-2	12,000*		X	X
Rail-mounted units (piggy-back dock)	ULPD	8,000		X	X
Mobile unit (trailer mounted)	TULCR	8,000	X	X	X
Mobile units (self-propelled)	SPULCR	8,000	X	X	X
	SPULCRT	20,000	X	X	X
Flatcar unit	ULCDR	8,000*	X	X	X

*Also available with 20,000 lb. capacity.

Visit our booth at Combined Railway Suppliers Exhibit, Chicago, McCormick Place, Oct. 9-16, Booth #78

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BUCK

pointed to the added post of secretary, succeeding **Carl A. Brannan,** who has elected to take an early retirement. **Lawrence Berman** appointed special assistant, executive department.

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT.—Emmett S. Clifford, formerly controller, **Matson Navigation Co.,** appointed auditor, BARTD. **Alfred E. Wolf** has been named head of a special transit engineering section. Mr. Wolf, formerly director of equipment design, **National Capital Transportation Agency,** Washington, D.C., will help formulate specifications for the design of high-speed electric trains for the Bay Area system. **Samuel H. Clark,** chief engineer, **American Institute of Steel Construction,** has been named project coordinator for **Parsons Brinckerhoff-Tudor-Bechtel,** BARTD's engineering consultants.

John S. Daniels appointed real estate manager. He was formerly principal right-of-way agent for District 4 of the Division of Highways in San Francisco.

SOUTHERN.—Henry L. Reaves appointed assistant manager, Agri-Business Services, Valdosta, Ga. **Richard H. Arrington** appointed to a similar position at Montgomery, Ala.

SOUTHERN PACIFIC.—William G. Winant, assistant treasurer and transfer agent, New York, retired Aug. 31, after 38 years with the SP. **Henry J. Heim,** formerly assistant to Mr. Winant at New York, named transfer agent at San Francisco. **H. R. Huber** will head the New York office of the treasury department as assistant transfer agent.

TRAFFIC EXECUTIVE ASSOCIATION — EASTERN RAILROADS.—Raphael C. Gill, general commerce manager, Eastern Railroads, and chairman, Coal, Coke & Iron Ore Committee, Trunk Line Territory Railroads, appointed chairman, TEA-ER, New York, succeeding **Orland E. Schultz,** who will retire Oct. 31. **Charles S. Baxter,** chairman, General Freight Traffic Committee, Eastern Railroads, has been designated, also, vice chairman, TEA, effective Nov. 1.

WABASH.—T. A. Theohar named to the newly created position of manager rates and services, Detroit, Mich.

WESTERN MARYLAND.—Philip D. Baer appointed assistant general freight agent, Baltimore. **Lewis H. Beall, Jr.,** named assistant to general freight agent.

Charles F. Welty appointed supervisor of safety, Hagerstown, Md.

WESTERN PACIFIC.—Warren W. Brown, assistant vice president, Chicago, retired Sept. 30.

WESTERN RAILROAD TRAFFIC ASSOCIATION—EXECUTIVE COMMITTEE.—James M. Souby, Jr., assistant chairman and counsel, appointed chairman and counsel, Chicago, succeeding **T. H. Maguire,** who retired Oct. 1, after almost 40 years of service in the railroad industry.

OBITUARY

W. L. Hartzog, principal assistant engineer, **Atlantic Coast Line,** Jacksonville, Fla., died Sept. 8.

Ernest F. Weber, 86, retired superintendent of automotive equipment, **Burlington,** died Sept. 29 in MacNeal Memorial Hospital, Berwyn, Ill.

Charles E. Bertrand
Reading

Richard P. Herman
North American Car

R. C. Gill
TEA-ER

O. E. Schultz
TEA-ER

J. M. Souby, Jr.
WRTA

T. H. Maguire
WRTA

Supply Trade

Richard P. Herman has been appointed director of marketing, **North American Car Corp.**

John C. Madden, general manager of sales, **A. M. Byers Company,** Pittsburgh, Pa., has been appointed vice president—sales.

C. H. Bartlett has been promoted from service engineer to sales engineer of the **FreightMaster** division of **Halliburton Co.,** at Fort Worth, Tex., effective Oct. 1.

Samuel A. Thomson, administrative assistant to executive vice president, **Alco Products, Inc.,** has retired after 45 years with Alco and one of its predecessors.

James M. Lloyd, district sales manager in charge of the Pittsburgh office, Transportation Equipment division, **American Steel Foundries, Inc.,** has retired after 42 years with that company. The Pittsburgh sales office will be consolidated with the Cleveland office. **E. C. Blakeman,** ASF district sales manager, Cleveland, will be in charge of the expanded territory.

Kenneth H. Grim has been named sales manager, Industrial Division, **Vapor Corp.**

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NEW YORK CENTRAL SYSTEM

found the answer

Journal and pedestal liners made from Rol-Man pre-hardened high carbon manganese steel "expected to wear up to eight years, or about twice as long as standard non-hardened plates and about six times as long as hardened carbon steel."

Attached to wear surfaces of journal boxes and pedestals of locomotive and car frames, **pre-hardened** Rol-Man fabricated parts prevent wear and impact damage to frames and bearings.

In service, the Rol-Man plates resist severe impact, plus extreme abrasion, and operated for years without lubrication of any kind.

Reliability is greatly improved also. In one typical New York Central test, Rol-Man pre-hardened liners installed in a diesel locomotive truck showed no appreciable wear after 259,000 miles, whereas conventional manganese steel liners on the same locomotive showed 1/32" wear.

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ROL-MAN

Common carriers urged to 'think as industry'

W. G. White, former railroad officer turned trucking executive, believes all modes should tackle common problems together.

The president of one of the country's largest motor common carriers has made a strong plea for unified action to find solutions to the common problems of the industry.

W. G. White, president of Consolidated Freightways (and a former vice president-operations of the Lackawanna), told members of the Atlantic States Shippers Advisory Board that "perhaps one of our past failings has been an inability to think in terms of a common-carrier industry."

• **Common problems.** "How many of us," he asked, "think in terms of motor carriers or rail carriers without ever visualizing the two as an industry with many common problems? Obviously, there are problems and goals to which the respective industries will have divergent approaches. But there are many problems common to both modes, and I believe there is increasing realization that the time has come for a united common-carrier effort in pursuit of solutions."

CF's president suggested united action on six fronts:

- Recognition of each mode's contribution to the common-carrier system as a whole.
- Elimination of gray-area or illegal for-hire carriage.
- Further expansion of TOFC activities.
- Formation of intermodal shipper-carrier committees.
- Expansion of joint rates and routes.
- Movement toward an intermodal Section 5a agreement.

Mr. White also urged an attitude of objectivity in assessing each mode's contribution to the system. Each mode, he declared, "has carved a niche in the over-all scheme and each contributes a portion of the transportation lift essential to the economy of our country. Unfortunately, some common carriers appear to be lacking the maturity necessary to present an intelligent appraisal of the situation. Consequently, we have consistant intermodal bickering on subjects not important enough to warrant the attention. There is no 'one' mode of transportation. All are necessary and each furnishes a valuable contribution to transportation generally."

• **Intermodal meetings?** As one means of promoting recognition of the contributions—and common problems—of the various modes, he suggested periodic meetings of top officers of such organizations as the AAR, American Trucking Associations, Air Transport Institute, Freight Forwarders Institute and, perhaps, representatives of the bus, pipeline and water-carrier industries (meetings similar in theory to the conferences of ICC, CAB and FMB members proposed in President Kennedy's Transportation Message last year).

From there, CF's top officer moved to a proposal that shippers be brought into the picture. Each mode, he noted, "has long recognized the need for shipper-carrier groups embracing one form of transportation. Have we not now progressed to the point where intermodal shipper-carrier groups are worth considering?"

• **Unwanted 'fiat.'** Through all his remarks ran a strong element of voluntary action—and a distaste for the kind of joint action that must be forced from the outside. On the matter of joint rates, for example, he found it "somewhat sobering to find that the carriers, though supporting the concept (of coordinated service) outwardly, have been reluctant to actually provide the service. Consequently, the Commission now finds it necessary to seek legislation which would enable it to force the carriers to do what they profess to favor."

Mr. White's reaction: "Intermodal coordination, if it is to be successful, must arise from spontaneous reaction of the carriers and not through legislative fiat."

Plan V piggyback, he pointed out, is such a through-rate and route arrangement—and while it's still in the embryo stage, "I believe the time is coming when it will come into its own. When this occurs, I believe we will see joint sales calls by motor and rail representatives on the same shipper. . . . As this occurs, perhaps the next step will be an intermodal 5a agreement. The conference method of ratemaking is a long-established principle, as is the immunity from the anti-trust laws granted thereto by Section 5a of the Interstate Commerce Act." One possible benefit from such a move: simplification of rate and tariff publications "that are so complicated even the computers are having difficulty."

• **De-regulation: Dead?** Elsewhere on the legislative front, Mr. White declared that "deregulation" bills leave much to be desired as a solution to the illegal for-hire carriage problem—and that the bills are "dead for this year." But, he said, "much can be salvaged if we choose to unite our efforts" in that field.

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Now railroads who want the economy, the performance, the dependability of the Transicold Diesel can have it — underslung or "On the Nose."

For more information, write today for our illustrated Transicold Diesel Line brochure.

Builders want more car tests

The ATA was told that operating transit companies should cooperate in testing equipment.

Engineers from each of the three transit carbuilders joined forces last week to give the American Transit Association a look into the future—a look punctuated by flashes of humor and dead-serious consideration of the problems which must be faced if the promise of rapid-transit is to be realized.

The trio: N. W. Fesmire, manager-engineering, Budd; William Van Der Sluys, general manager, passenger car engineering, Pullman-Standard, and W. C. Wheeler, chief engineer, St. Louis Car.

In the main, the three were in agreement on the salient points—including, importantly, the vital need for cooperation from operating transit systems in testing new equipment developments.

• **The costly prototype.** A major factor influencing manufacturers' design work, Mr. Van Der Sluys declared, will be the "willingness of the operating people to experiment with new equipment, both in test operation and service operation." Prototype cars, he noted, "are extraordinarily expensive to build and rarely warrant the expenditure involved. On the other hand, any really new ideas must be tried out in service, preferably by modifying existing equipment, before either the manufacturer or the property dares to approve quantity production." Among the areas where he sees need for this kind of cooperation: new developments in truck design, improved propulsion equipment, improved braking, improved acoustics.

Unanimously, the panel cited development of new materials—some just coming into extensive use, others a bit off into the future—as having significant effects on the design of rapid transit system cars.

• **Diminishing returns.** Mr. Fesmire, for example, noted that carbuilders are approaching a point of diminishing returns in carbody design, so far as weight reductions are concerned, and that future accessory installations:—air-conditioning and automated-operation equipment—will not improve present weight factors.

The industry, he declared, "is almost at a point where major break-throughs in structural materials and equipment design are required to accomplish additional reductions." But there's hope: "We expect that some of the new materials, presently in the exotic category, will become commercially available for use in carbody structures and will assist in reducing weights. We believe that some of the new methods of manufacture, such as sandwich construction, both bonded and welded, will help in this direction."

Carbuilders, he said, "will continue to contribute every possibility as far as carbody design is concerned. Further effort on the part of equipment suppliers is needed, especially in the traction-equipment and air-brake fields."

Mr. Wheeler went most deeply into the nuts-and-bolts of design— from the standpoint of the "ideal" and the "optimum" car for a particular property, and with the caution that an optimum design "may be of one type or character for use on existing operating properties and of an entirely different type or design for use on new properties."

• **What's 'ideal?'** What might an "ideal" car be? It might approximate 75 feet in length, 10 feet in width, 12 feet in height. It would be air-conditioned, have adequate heat, light and ventilation, and be furnished with wide picture windows, adequate aisles and well-upholstered seats for about 80 passengers.

There would be two or three doorways per side. It would have ample horsepower and control for at least 3-mile-per-hour-per-second acceleration and braking and top speed consistent with station spacing and expected schedule. It would ride on cushioned trucks which, in turn, would be supported on a permanently smooth roadbed, resulting in a low noise level. And what, then, would the "optimum" be?

As Mr. Wheeler sees it, a car which would "modify those objectives to agree with the customer's individual property characteristics and financial condition. It's impossible to describe "an optimum car. There will be many."

Many of these factors also entered into Mr. Fesmire's thinking, particularly in the areas of noise reduction, provision of a smoother ride, improvement in design of seats and improvements with regard to temperature control.

Rapid transit, he declared, "cannot much longer ignore air-conditioning. The time is coming when we will have to discontinue depending on the perspiration of the passenger for evaporative cooling." And, as for design of car seats: "It appears that in many cases today, the seats are designed to fit the carbody. We are going to have to begin to design seats to fit the people if we expect the people to ride on them."

In sum, it was evident the builders' comments to ATA represented a declaration of willingness to stay in the forefront of rapid-transit development.

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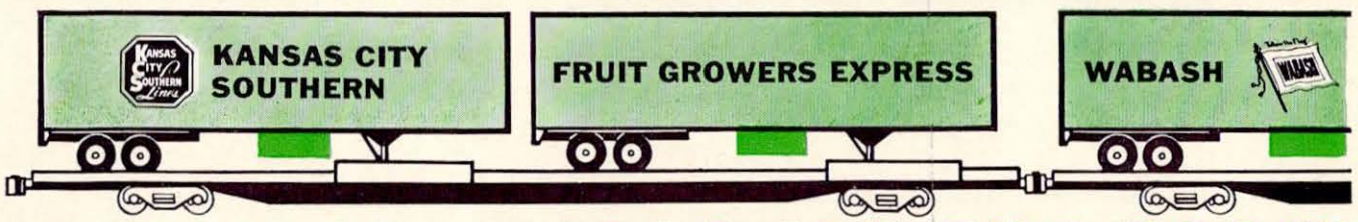

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It Can Handle a String of Loaded Rail Cars...and that's not all—

The new model 7 TM Trackmobile is the most powerful of all. (We should know. We've built them all). 18,000 lbs. of drawbar pull means that the 7 TM can easily pull a string of fully loaded rail cars in its regular routine.

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The savings—both in initial cost and in daily operation—with a Trackmobile are truly important. Let us tell you about them.

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AAR lab pays its way with research

The Chicago center has had some notable successes, saving the railroads millions.

A few weeks ago AAR Research Vice President Bill Keller received a call from a harried vice president of operations. The problem: steel vertical posts on the road's tri-level auto carriers were cracking.

Equipped with measuring instruments and recording equipment, an AAR research team swung into action. Strain gauges, accelerometers and extensometers were mounted on one of the auto cars. Recording equipment was installed in a following car to obtain continuous oscillograph readings under a variety of operating conditions. Back at the AAR Research Center in Chicago, the team analyzed its data, came up with recommendations for repairing and strengthening the offending members.

● **Experienced trouble-shooters.** Over the past 13 years solving ticklish technical problems has become standard procedure at the AAR's modern research facilities located on the campus of the Illinois Institute of Technology. Although the railroad industry's physical research efforts are by no means confined to the AAR's Chicago operation, it is the nerve center of much of the rail research carried out in this country. The Center has played no minor role in the $17-billion modernization of railroad plant and equipment since World War II, a period during which the industry has been virtually transformed by dieselization, automatic traffic control, electronic data processing and pushbotton classification yards.

At Chicago, Mr. Keller estimates the findings of his 76-man staff, which burrows into everything from food preservation to hot boxes, from weed control to piggybacking, are saving the industry some $110 million a year.

If so, the $2.7-million Center is one of the railroads' most profitable investments. Operating on an annual budget of well under $1,000,000 ($763,000 this year), the AAR claims that re-

search on track and roadbed alone is saving the industry some $70 million a year.

● **Hotbox reduction.** The AAR's journal-bearing research program, which has resulted in dramatic improvements in freight car performance, has easily paid for itself several times over. In 1960 138,697 hotboxes were reported. In 1961 this figure was slashed 44% to 77,373, and last year was cut another 57% to 32,809. In 1961 the mileage between hotbox set-outs averaged 394,446. Last year the average climbed to 942,514 miles. Several times in the past year or so the monthly average has passed the 1,000,000-mile mark, and Mr. Keller believes 2,000,000 miles per hotbox set out is a distinct possibility in the foreseeable future.

To achieve this, testing of both bearings and lubricants is continuing on a priority basis at the Research Center. A journal lubricator renovating machine is being used as part of the program to appraise renovated lubricators. One project is aimed at the determination of the quantities of moisture which can be removed from lubricators which have been saturated with water. Evaluation of friction-reducing as well as corrosion-inhibiting additives in journal lubricating oils is also being continued.

AAR-conducted impact tests and studies of freight car journal-bearing ability led to the development of the new Hi-Hat bearing and wedge design which has shown improved performance over the steeple back bearing in early tests.

● **Rail detector cars.** Another product of AAR research—the rail detector car—has saved the industry an estimated $700 million since the first one was introduced. The Center now has two rail and two road-rail detector cars which it leases to member roads. It is also doing a fairly brisk business in building detector cars to order. Two road-rail types were completed and delivered to the Rock Island and the Quebec North Shore and Labrador earlier this year, and another two are under construction, one for the Milwaukee and the other for the AAR's own use.

Mr. Keller's staff now has some 85 projects underway at the Center or out on the line, including the development of techniques for butt-welding in the field, nuclear determination of decay in wood bridge members and the development of mathematical models to determine track maintenance requirements.

● **Missile 'tracking.'** In at least one instance, the space age has brought AAR researchers to the outer edges of a new technology. Martin-Marietta Co. recently hired an AAR team to advise on the construction of a double-track railway at Cape Canaveral and the design of the trucks for a special missile transporter which will operate over the railway.

● **Cushioning device test.** For the railroads, one of the AAR's more important projects, and one that will continue through 1964, is a joint study with the Pennsylvania Railroad to determine the characteristics of freight car cushioning devices under two basic conditions:

- The level of lading damage protection in a cushion-equipped car when it strikes a string of standing cars.
- The strength, under impact squeeze, of the structural details of a cushioning device when the car is standing at the head end of a string of cars and is struck by a fully loaded moving car equipped with standard draft gears.

Cushioning devices being tested include the Hydroframe 60, Barber Cushion Tube with standard and 36-inch pocket draft gears, the Freight-Master, Gliding Sill, Hydra-Cushion, Shock Control, Hydra-Buff and Bendix.

Automatic inspection devices also rate high priority in the AAR's current research program. Sonic methods for detecting defective moving parts in diesel engines and cars are being studied jointly with the Stanford Research Institute. Other studies are underway to develop an automatic system for brake inspection.

● **Data processing systems.** In addition, the AAR Center is stepping up its study of automatic car identification (ACI) systems, and related computer projects are being considered. Economic data on several systems have been furnished by member roads, and two or three of the more promising are being studied.

Tests are continuing on modified emergency portions of AB airbrake valves which have been equipped with rubber diaphragms instead of piston rings, and Mr. Keller is convinced that AB valve cleaning time can be extended from the present four years to five years.

As a result of the stresses induced in the surface of freight car and diesel locomotive axles due to the press fit of wheels and gears, an important factor in the low fatigue life of axles, the AAR has come up with recommendations for modifications of axle designs aimed at reducing these stresses.

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search on track and roadbed alone is saving the industry some $70 million a year.

● **Hotbox reduction.** The AAR's journal-bearing research program, which has resulted in dramatic improvements in freight car performance, has easily paid for itself several times over. In 1960 138,697 hotboxes were reported. In 1961 this figure was slashed 44% to 77,373, and last year was cut another 57% to 32,809. In 1961 the mileage between hotbox set-outs averaged 394,446. Last year the average climbed to 942,514 miles. Several times in the past year or so the monthly average has passed the 1,000,000-mile mark, and Mr. Keller believes 2,000,000 miles per hotbox set out is a distinct possibility in the foreseeable future.

To achieve this, testing of both bearings and lubricants is continuing on a priority basis at the Research Center. A journal lubricator renovating machine is being used as part of the program to appraise renovated lubricators. One project is aimed at the determination of the quantities of moisture which can be removed from lubricators which have been saturated with water. Evaluation of friction-reducing as well as corrosion-inhibiting additives in journal lubricating oils is also being continued.

AAR-conducted impact tests and studies of freight car journal-bearing ability led to the development of the new Hi-Hat bearing and wedge design which has shown improved performance over the steeple back bearing in early tests.

● **Rail detector cars.** Another product of AAR research—the rail detector car—has saved the industry an estimated $700 million since the first one was introduced. The Center now has two rail and two road-rail detector cars which it leases to member roads. It is also doing a fairly brisk business in building detector cars to order. Two road-rail types were completed and delivered to the Rock Island and the Quebec North Shore and Labrador earlier this year, and another two are under construction, one for the Milwaukee and the other for the AAR's own use.

Mr. Keller's staff now has some 85 projects underway at the Center or out on the line, including the development of techniques for butt-welding in the field, nuclear determination of decay in wood bridge members and the development of mathematical models to determine track maintenance requirements.

● **Missile 'tracking.'** In at least one instance, the space age has brought AAR researchers to the outer edges of a new technology. Martin-Marietta Co. recently hired an AAR team to advise on the construction of a double-track railway at Cape Canaveral and the design of the trucks for a special missile transporter which will operate over the railway.

● **Cushioning device test.** For the railroads, one of the AAR's more important projects, and one that will continue through 1964, is a joint study with the Pennsylvania Railroad to determine the characteristics of freight car cushioning devices under two basic conditions:

- The level of lading damage protection in a cushion-equipped car when it strikes a string of standing cars.
- The strength, under impact squeeze, of the structural details of a cushioning device when the car is standing at the head end of a string of cars and is struck by a fully loaded moving car equipped with standard draft gears.

Cushioning devices being tested include the Hydroframe 60, Barber Cushion Tube with standard and 36-inch pocket draft gears, the Freight-Master, Gliding Sill, Hydra-Cushion, Shock Control, Hydra-Buff and Bendix.

Automatic inspection devices also rate high priority in the AAR's current research program. Sonic methods for detecting defective moving parts in diesel engines and cars are being studied jointly with the Stanford Research Institute. Other studies are underway to develop an automatic system for brake inspection.

● **Data processing systems.** In addition, the AAR Center is stepping up its study of automatic car identification (ACI) systems, and related computer projects are being considered. Economic data on several systems have been furnished by member roads, and two or three of the more promising are being studied.

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Do heavy trucks pay their way?

The answer, provided by a $27-million road test made by the American Association of State Highway Officials: a firm 'no.'

Proof that heavy trucks are grinding up the nation's highways at a rate far beyond their cash contribution to road funds has added a new statistical dimension to an old war of words. The railroad industry's contention that heavy trucks don't pay their way on highways has been given some pile-driver reinforcement from the nation's top highway experts: the American Association of State Highway Officials.

The new facts—from the $27-million Ottawa (or National) Road Test and a follow-up survey by 38 states—should warm up the war of words as truck weights and weight-limit increases are debated in state legislatures across the country in the months ahead. AASHO's findings from the evaluation survey by the states and the road test at Ottawa, Ill., began making news when truckers pressed for raises in AASHO suggested weight limits. The association did raise its standards this year—for the first time since 1942—despite these findings:

- A billion dollars more would be needed for resurfacing highways in 28 states during the next 10 years and the roads' lives would be cut significantly if weight limits were increased to 20,000 pounds for single axles and 35,000 pounds for tandem axles. The bill under the present limits of 18,000 and 32,000 pounds is estimated at $3,329,115,000; under the higher maximums, the cost would jump to $4,263,522,000. The average remaining life of the roads now is 7.4 years. It would drop to 6.2 years under the heavier loads.
- The resurfacing bill would jump $2.5 billion if the axle-load limits were increased to 24,000 and 42,000 pounds, believed to be a not-too-distant objective of the trucking industry. Life expectancy under the 24,000-42,000-pound limits would be cut almost in half—from 7.4 years to 4.1 years.
- Even under present weight limits, deterioration of highways will accelerate because of the increase in heavy truck traffic.
- A truck with an 18,000-pound single axle-load has the same effect on a road as 5,000 passenger cars. A truck with a 22,000-pound single axle-load has the same effect as 11,750 passenger cars.
- Expressways and super-highways built to withstand the abuse of heavy trucks cost enormously more than the same routes built only for autos and light trucks.

Weight-limit increases, warns AASHO, bring material reductions in the remaining lives of highway pavement surfaces. Result: "Significant increases in the cost of resurfacing programs during the next ten years." Even "without an increase in permissible axle loads," AASHO says, "the life span of highway pavements is becoming shorter because of the increased frequency of heavy loads. To raise axle-load limits is to aggravate this tendency. An increase in the load limits would, of necessity, be accompanied by an increase in the annual burden of resurfacing costs because of accelerated deterioration."

- **Higher user charges?** But AASHO's findings do not rule out weight-limit increases. Not if truckers want to pay the price: "An increase cannot be put into effect without incurring substantial costs that must be paid for by user taxes, presumably on the vehicles that occasion the increased costs."

If there ever was any doubt about which vehicles "occasion the increased costs" of highway construction and maintenance, it was removed, railroad men believe, by the four-year Ottawa Road Test. They base their claim on one of the test loops, called the basic road, where results indicated that concrete pavement slabs 2½ inches thick can sustain automobile weight (2,000 pounds) without undue damage, and that concrete pavement 3½ inches thick can sustain both passenger cars and light trucks up to an axle-load of 6,000 pounds.

Trucks vs autos

In a report summarizing the results of the test, Joseph H. Hays, general counsel of the Association of Western Railways, say the basic road shows that "whenever it is necessary to build into the highway thickness of concrete pavement slab in excess of 3½ inches or any amount of reinforcement, or any subbase, the entire cost of such extra elements is the sole responsibility of commercial vehicles with axle loads heavier than 6,000 pounds, and none of such extra cost is the responsibility of the owners and operators of passenger cars or light pickup or farm truckers with axle loads of not more than 6,000 pounds."

The test made clear what state highway department officials had long known, that as trucks get bigger, roads will have to be built with greater ca-

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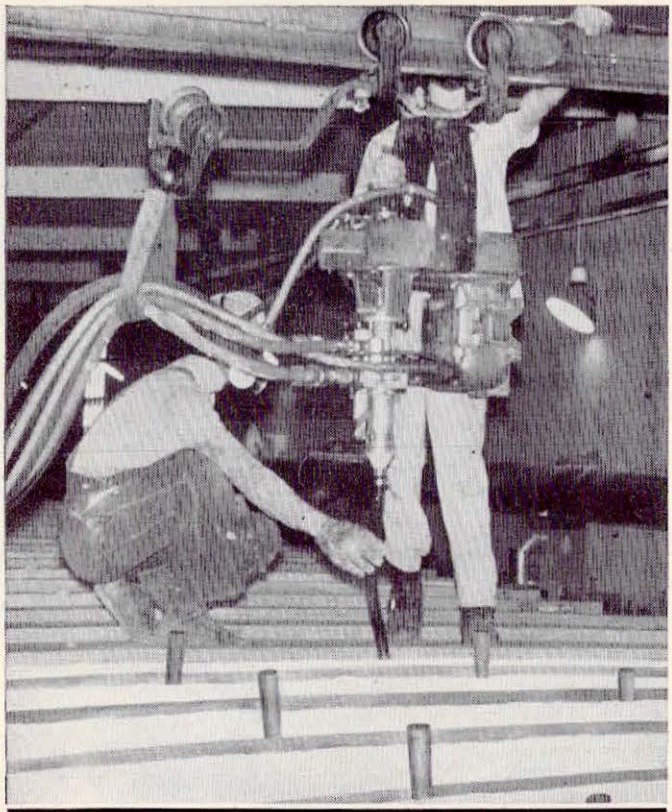

(Chicago, Burlington & Quincy)

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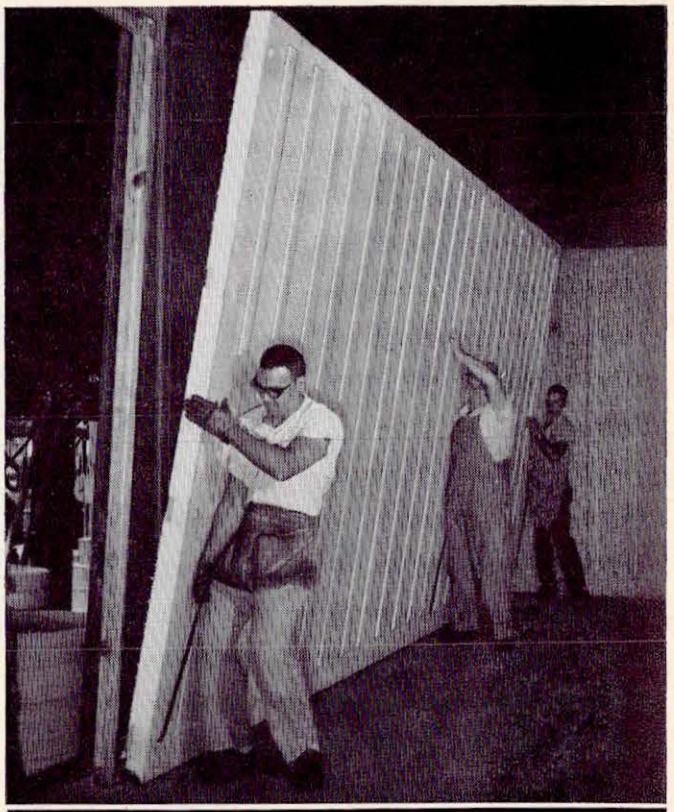

(Atchison, Topeka & Santa Fe)

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pacity and at greater expense.

● **Who will pay?** The basic road, the kind of road needed by the average U. S. motorist, Mr. Hays notes, "proved to be much less expensive than had heretofore been supposed." If highway officials use the test results in allocating costs, he says, truckers may find themselves boxed in: "Highway cost studies to be made in the future will likely assign to automobiles and light trucks a much lower portion of the total cost. In all probability, the operators of the heavier and bigger trucks have promoted a system of highways so expensive that it will be difficult, if not impossible, to use them if they are compelled to pay their proper share of the highway cost. The National Road Test provides data in sufficient detail to calculate the separate increments of highway cost for which each weight class of vehicle is responsible. For years to come there doubtless will be heated controversy as to what user charges should be paid by motor vehicles."

Asphalt surfaces were also analyzed during the Ottawa Road Test, with similar results. "The tests . . . seem to show conclusively," says Mr. Hays, "that the basic road, if made of concrete, should be composed of a slab no more than 3½ inches thick, and, if made of asphalt, should be composed of a surface layer no more than 2 inches in thickness laid on a base (without subbase) of not more than 6 inches."

Most new roads, of course, are designed to withstand loads much greater than the weight of automobiles and light trucks and are constructed beyond the requirements of the basic road. But, Mr. Hays feels, the amount—and cost—of excess capacity built into roads now can be determined accurately: "Future studies which adhere to this incremental theory and which start with the basic road . . . will assign responsibility for a much greater portion of total road cost to heavier vehicles and responsibility for a much smaller portion to automobiles and light trucks."

Truckers this year are pushing successfully for higher gross weight limits. In the first eight months of 1963 a total of 17 states upped their limits over the 73,000-pound level. Last month Pennsylvania, Illinois and Alabama joined the parade and thereby cleared highways coast-to-coast for five-axle rigs. But, while truckers press for higher gross limits and set their sights on increases in the axle-load maximums, AASHO is warning that the increases may result in greater user charges. Mr. Hays comments: "It seems readily apparent that road-use taxes related to cost responsibility are due for material adjustment downward as to automobiles and light

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The **YARDBIRD** represents a major step forward in improving operating efficiency while effectively lowering operating expenses.

The **YARDBIRD** is **not** a revamped scooter or industrial truck. It is a specifically engineered unit that was developed in close cooperation with the personnel of major western railroads.

After almost 2 years of continuous operation here are some comparison facts and figures voluntarily released by management. Times are based on servicing 100 Cars.

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2 men — 1 hr./30 min.	4 men — 2 hrs.

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trucks and upward as to heavy trucks and trailers."

● **Comparisons.** Backing up AASHO's warning are some impressive figures. For example, the Ottawa Road Test showed that:

A truck with an 18,000-pound single axle-load (the maximum in 38 states, according to AASHO) has the same effect as 5,000 passenger cars (most cars weigh less than 2,000 pounds, the axle load used in the test).

A truck with a 22,000-pound single axle-load (permitted in at least six states and the District of Columbia) has the same effect as 11,750 passenger cars, or a greater effect than that of two trucks with 18,000-pound loads.

Comparison basis

The comparisons apply to rigid pavement eight inches thick when it is ready to be surfaced, the basis used by AASHO to set up equivalence factors. On the same basis:

A 32,000-pound tandem axle-load has the same effect as 1½ applications of the 18,000-pound single axle-load—or 7,450 applications of the 2,000-pound automobile.

A 40,000-pound tandem axle-load has the same effect on the pavement as 19,000 passenger cars.

In states where the single axle-load limit is 18,000 pounds, the limit for tandem axles is usually 32,000 pounds, apparently on the theory that the two have the same effect on the highways.

The Ottawa Road Test comparisons measure the deteriorating effects of axle loads on pavements, but not the other elements of highway costs such as grading, rights-of-way, passing lanes and other expensive structural features necessitated by heavy truck use.

● **Shorter highway life.** From the results of the Ottawa Road Test, officials were able to set up equations which enabled state highway departments to estimate what heavier trucks would do to their roads. All of the states with axle-load limits of 18,000 and 32,000 pounds said increasing the limits would cut the life span of their highways and jack up resurfacing costs. Some said the remaining life of their highways would be cut nearly in half if the limits were raised to 24,000 and 42,000 pounds.

Minnesota, the state in the 18,000-32,000-pound category whose roads have the longest life expectancy—13.4 years—says if its present axle-load limits were raised to 24,000 and 42,000 pounds, the life expectancy would drop to 7.6 years. Resurfacing costs under the higher limits, Minnesota says, would jump from $57,073,000 to $82,766,000.

Virginia's roads, under the same limits, have a remaining life of 7.9 years. With the 24,000- and 42,000-pound axle-load limits, the figure would drop to 4.3 years. Resurfacing costs would rise sharply, from $28,214,000 to $71,045,000. If Virginia merely raised its limits to 20,000 pounds for single axle-loads and 35,000 pounds for tandem axle-loads, the life span of its highways would drop to 6.6 years and the resurfacing costs would climb to $39,260,000.

California estimates its roads have a remaining life of 10.5 years. But that figure would drop, the state says, to 8.6 years if axle-load limits were raised to 20,000 and 35,000 pounds; to 7.1 years if the limits were raised to 22,000 and 38,000 pounds, and to 5.6 years under limits of 24,000 and 42,000 pounds. Resurfacing costs would rise from the present estimate of $136,743,000 to $249,803,000 to $353,048,000 to $397,302,000 under the various increases. The cost for resurfacing in the next 10 years under the limits of 24,000 and 42,000 pounds is nearly triple the present estimated cost under the existing limits of 18,000 and 32,000 pounds.

Michigan's resurfacing costs would more than triple, the state estimates, if weight limits were increased from the 18-32,000-pound level to 24-42,000-pounds. Costs presently are estimated at $72,686,000. The estimated bill under the higher limit: $243,153,000. The remaining life of the roads would be cut from 12.8 years to 7.4 years.

Colorado estimates similar soaring of costs—from $57,979,000 to $178,126,000—with the same increases in weight limits. Life expectancy of Colorado's roads presently is 11.6 years. It would be cut to 6.2 years under the higher limits.

What happens when truck weights go up

WEIGHT LIMITS (single-tandem axle)	*LIFE EXPECTANCY**	*RESURFACING COSTS**
18,000-32,000 pounds (28 states)	7.4 years	$3.3 billion
If limits were raised to:		
20,000-35,000 pounds	6.2 years	4.2 billion
22,000-38,000 pounds	5.0 years	5.0 billion
24,000-42,000 pounds	4.1 years	5.9 billion

*Figures on life expectancy and resurfacing cost are averages of the estimates of 28 states with 18,000-32,000-pound limits reporting to the American Association of State Highway Officials.

Heavy-load states

Vermont is the only state on the continent which has axle-load limits of 24,000 and 42,000 pounds, and life expectancy for Vermont's highways is 5.5 years. Hawaii has similar limits—24,000 and 32,000 pounds—and the remaining life of its roads is estimated at 2.9 years. Of all the states reporting which have axle-load limits higher than the former AASHO standards, only one, New Hampshire, says the remaining life of its roads (3.7 years) would not be affected by an increase in axle-load limits.

● **Resurfacing costs.** Under increased axle-load limits, AASHO says, resurfacing costs would take a sharp upturn in the next decade and then while they would not remain at that high level, neither would they ever return to the present level. The association points out that "the increased expense over the 10-year period was largely attributable to the earlier occurrence of the necessity for the first resurfacing (after

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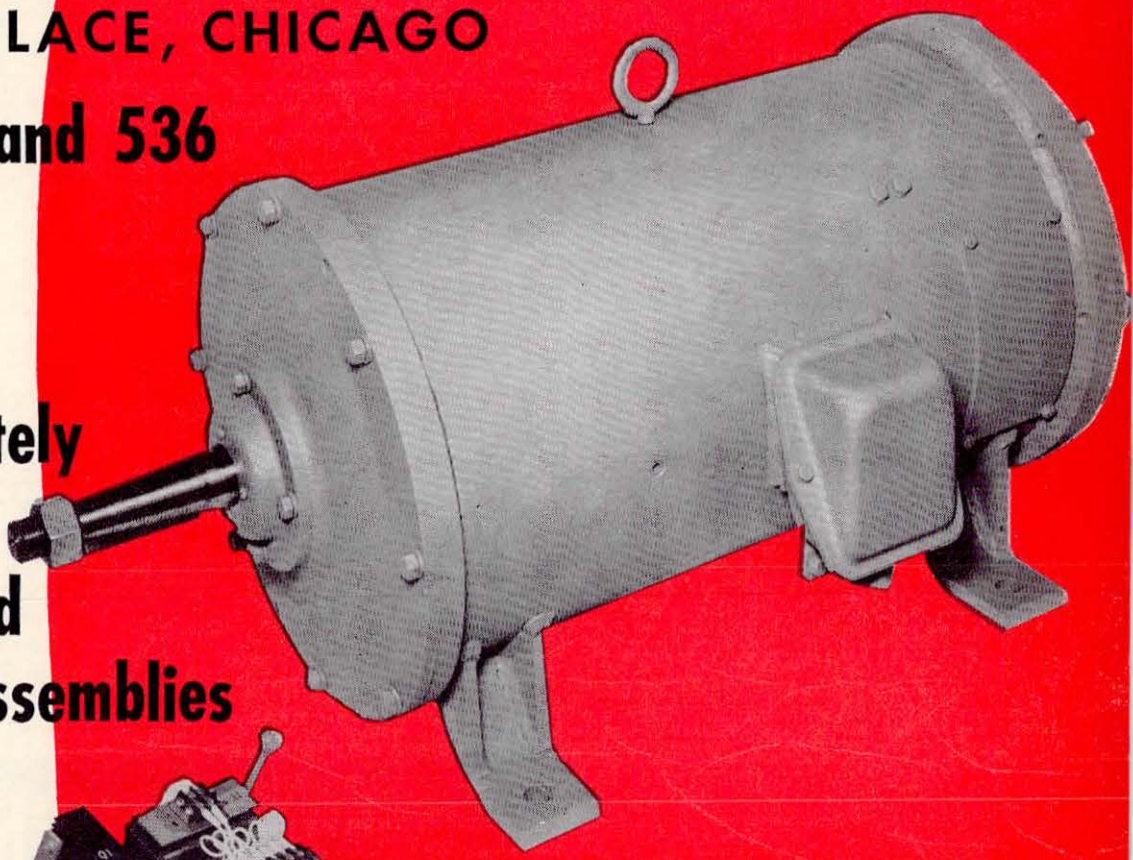

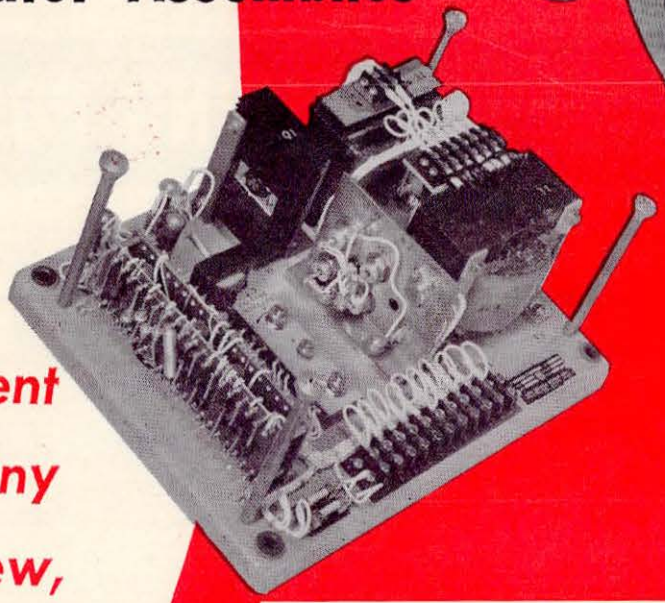

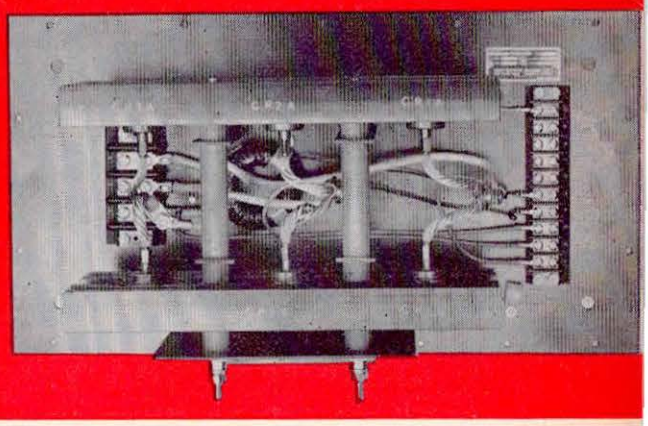

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1962) because of the increased frequency of heavy loads. This effect produces a 'hump' in the resurfacing schedule for the higher load limits during the period of years when these first resurfacings are occurring. This does not mean that the level of resurfacing costs would ever return to that which would be incurred under present axle-load limits. The increased frequency of heavy loads would take their toll in the long run as well as the short run, but there is a heightened effect during the first parts of the period."

• **Higher initial costs.** The heavier trucks also would be responsible for boosting the original cost of highway construction, the association points out. The "heightened effect during the first part of the period" under heavier load limits, says AASHO, "is a very real one and must be met by increased expenditures, if axle-load limits are raised. . . . It can be stated with confidence that increases in permitted axle loads will produce a significant increase in resurfacing costs over the first 10 years or more, and a probably smaller but still significant increase over the long run. There would be corresponding required increases in costs of reconstruction or construction on new location, because of increases in design requirements to meet the increased axle loads."

One implication of the high resurfacing-cost estimates is that the majority of the nation's roads are not in good condition. The U. S. Bureau of Public Roads classifies only 16% of the 3,537,954 miles of roads and streets in the country as "good." A total of 2,982,896 miles of road are said to have inferior surfacing or none at all. Comments Mr. Hays: "Classed with the mileage we have labeled as 'good' were roads as thin as 7 inches, including surface and base. The Ottawa Test . . . showed clearly that in order to sustain single axle loads of 18,000 pounds and tandem loads of 32,000 pounds an asphalt road must have a . . . total minimum required thickness of 18 inches. To accommodate the same axle loads the test showed a requirement of at least 8-inch thickness in concrete slab on a minimum subbase of 3 inches."

Under the statistics, there were some ugly possibilities for taxpayers and truckers alike. The best possible figure that can be put on highway/street mileage capable of supporting the weight of heavy trucks is the 16% that can carry a maximum axle load of 18,000 pounds. With AASHO standards already jacked up to single axle loads of 20,000 pounds, considerably less than 16% of the nation's roads can take the increasingly destructive pounding in store for them if truck weight limits are raised state by state, across the nation.

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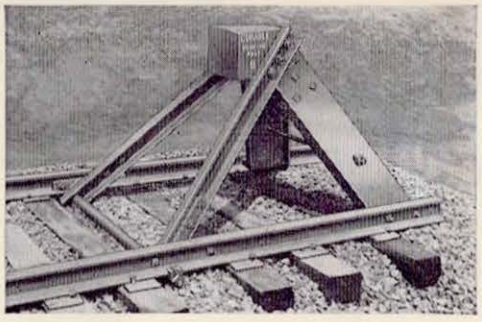

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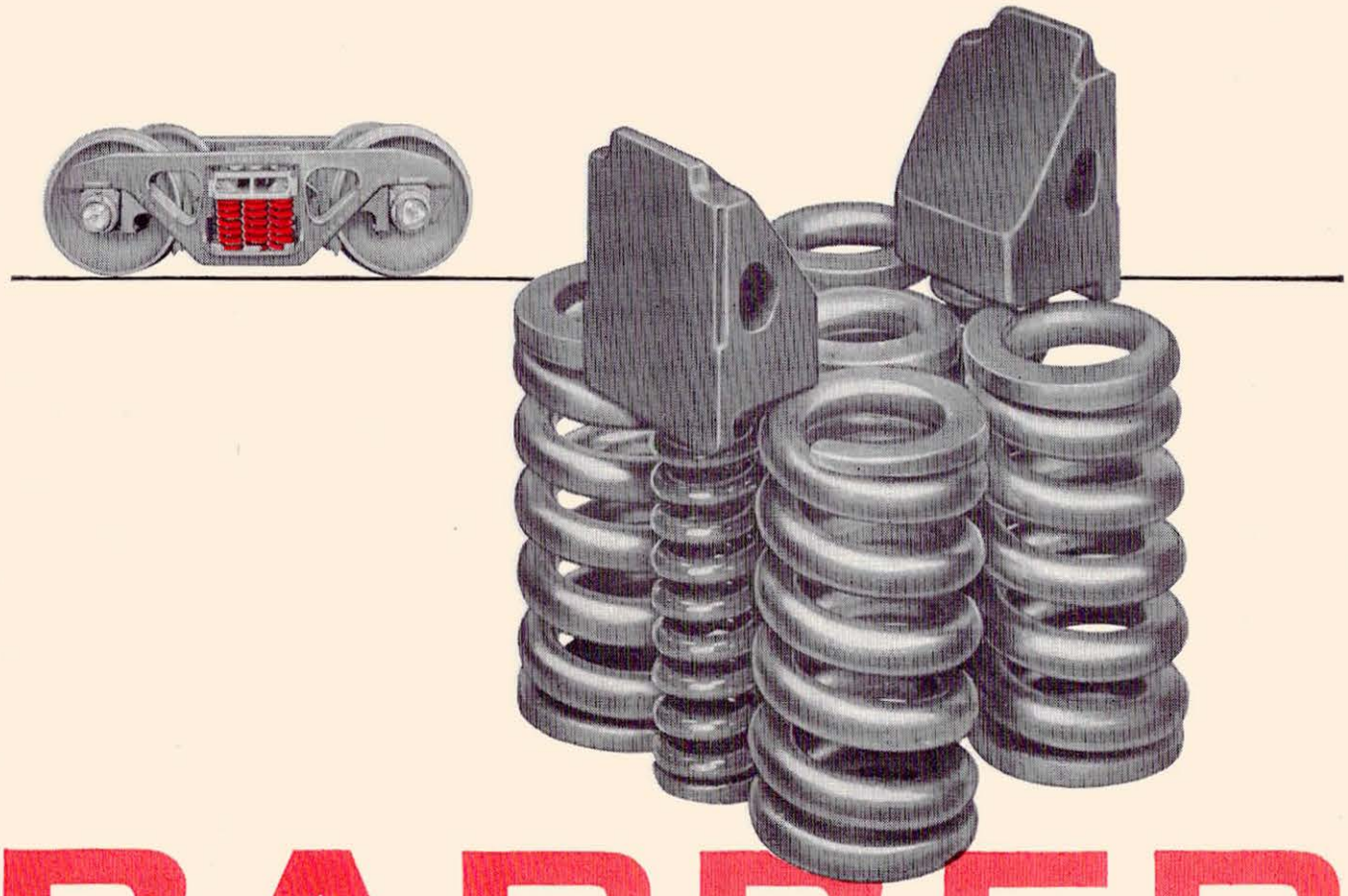

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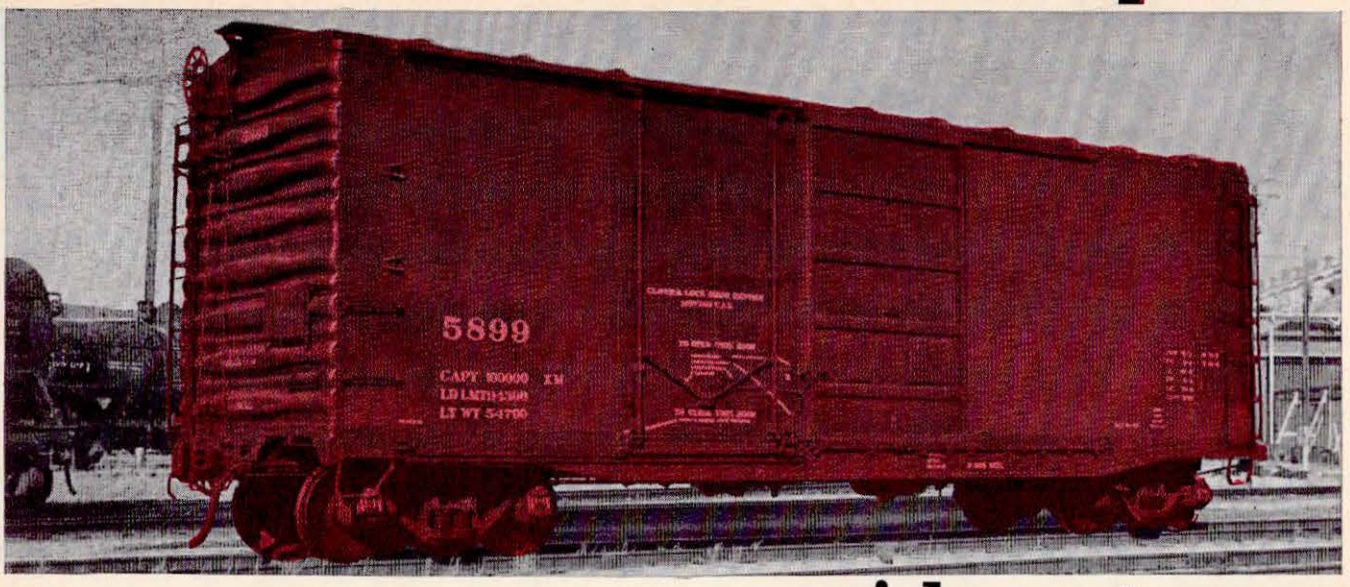

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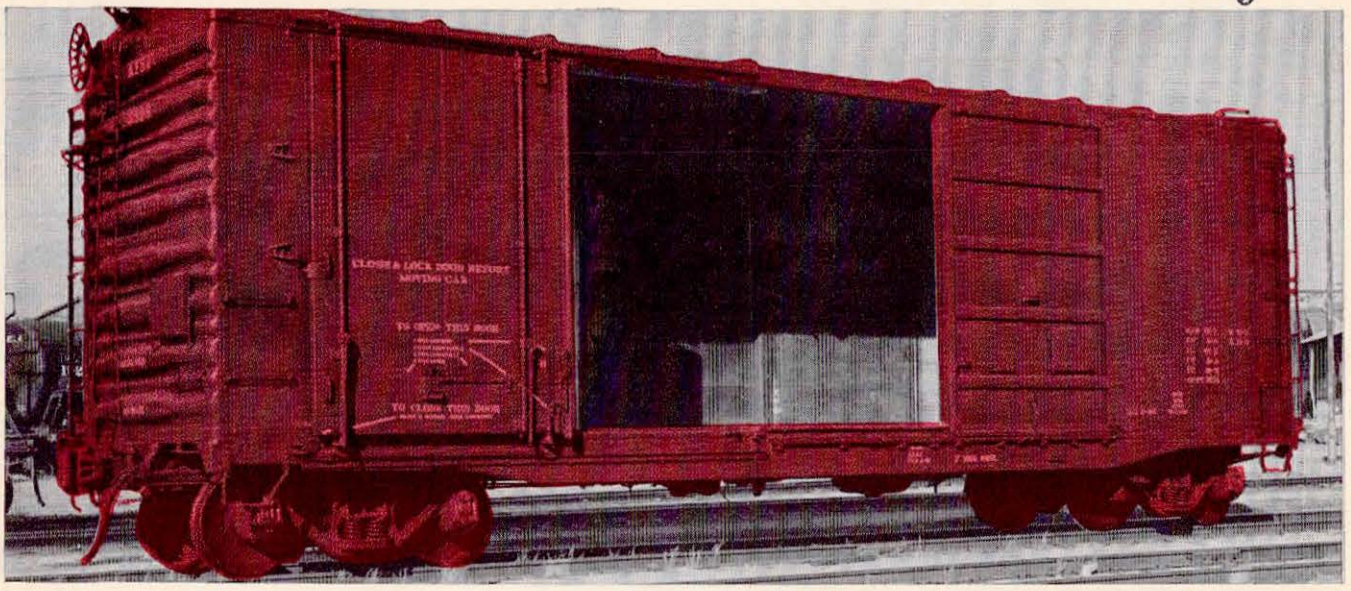

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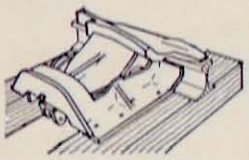

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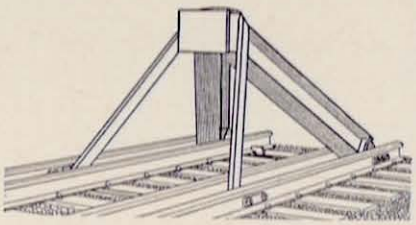

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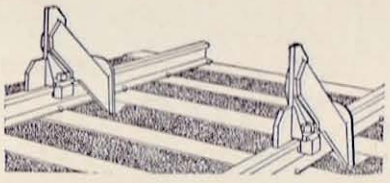

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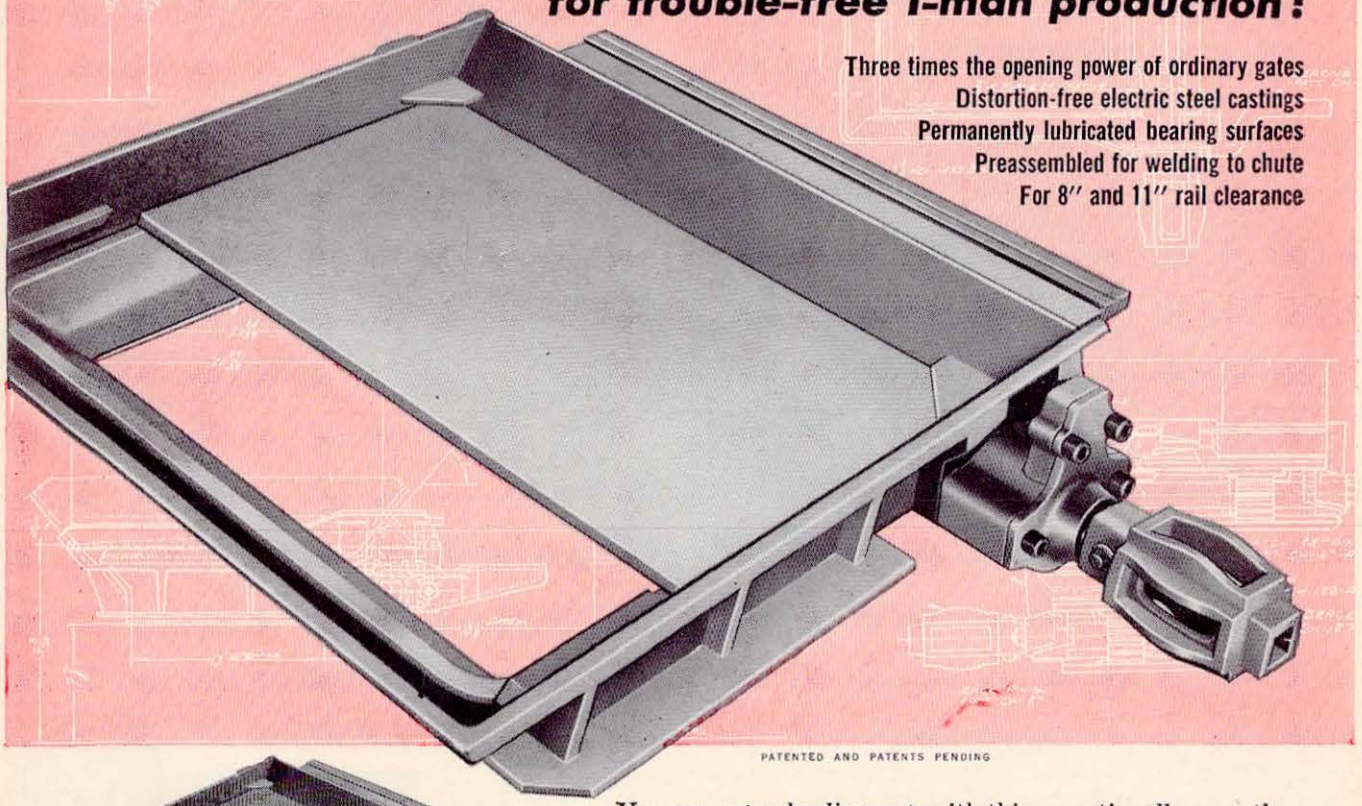

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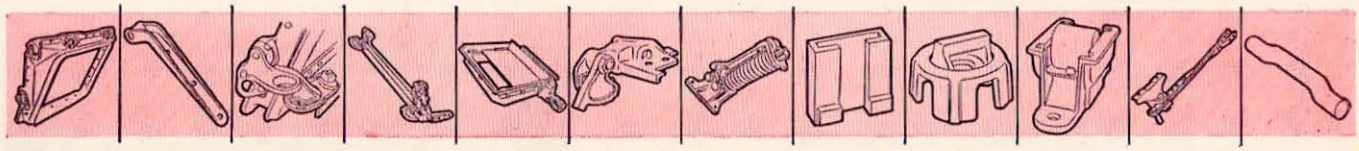

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Young & Greenawalt are specialists in handling steel fabricated products and have over a decade of experience in quality galvanizing to meet exacting railroad, state and federal specifications.

Let us show you how we can save you money and help you improve your quality and service. Send us your specifications for complete information and prices.

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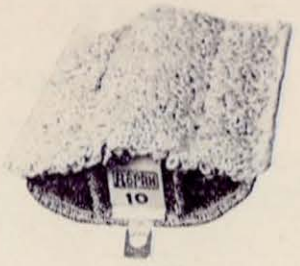

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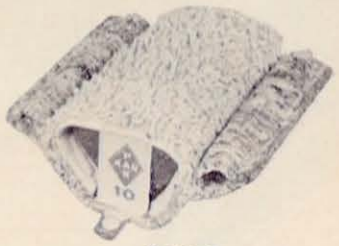

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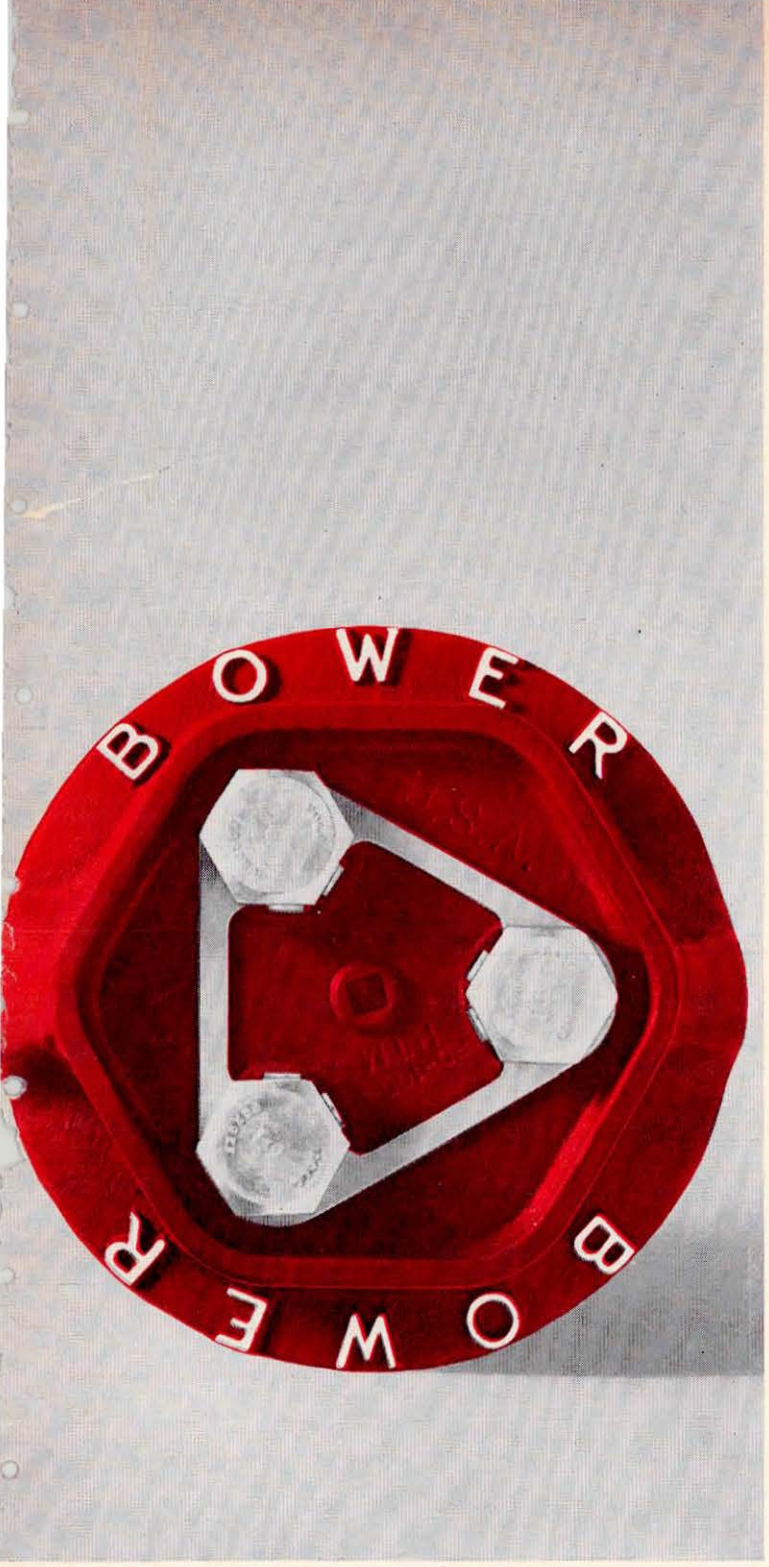
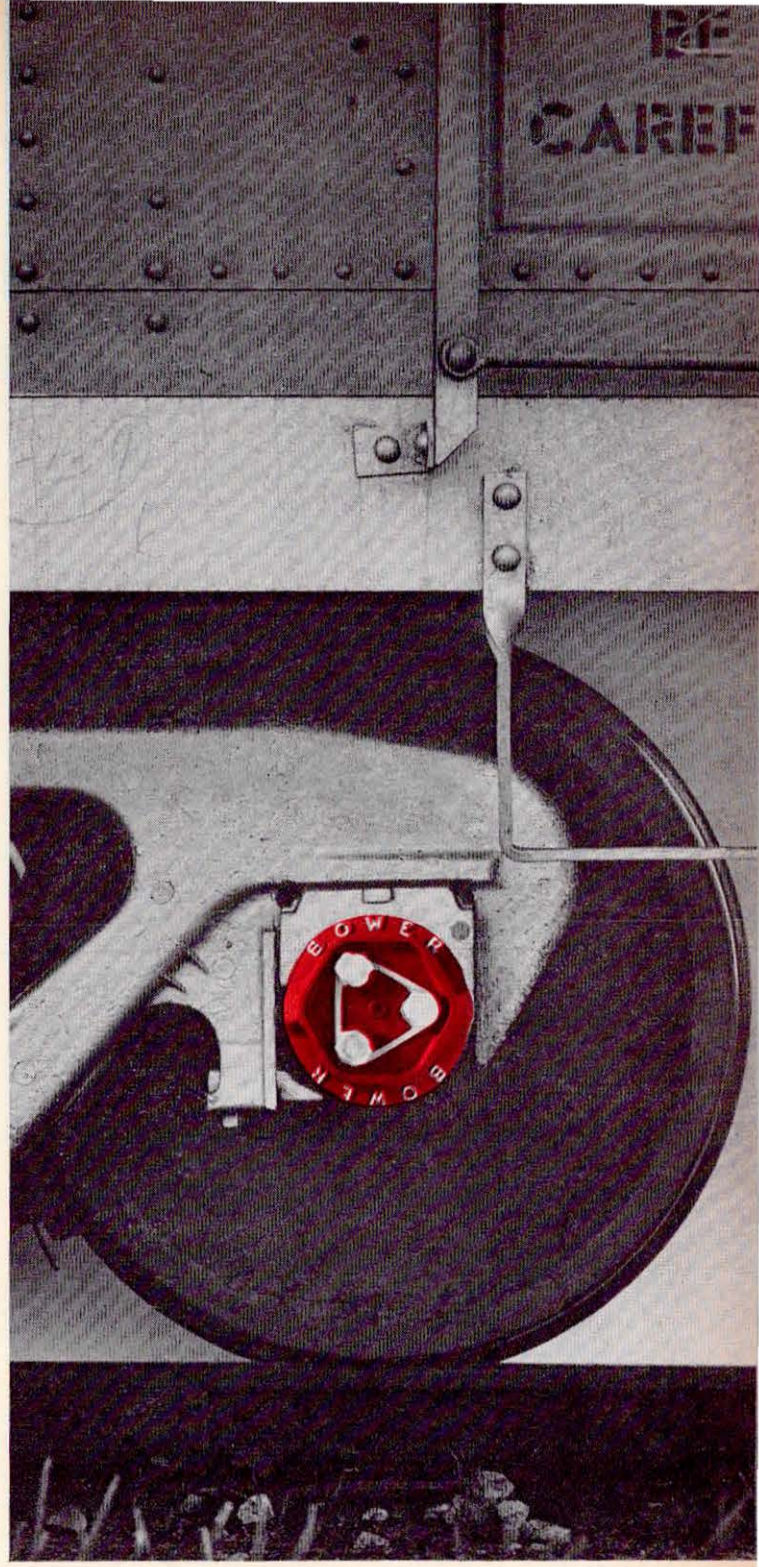


Bower makes the "Red Cap."



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One of the world's oldest and largest roller bearing manufacturers, Bower builds into "Red Cap" journal bearings performance based on our experience *and* the latest in research and manufacturing techniques. We're also original equipment suppliers to the automotive, aircraft, agricultural implement and other heavy equipment industries.

A prominent railway equipment supplier for almost 75 years, Stanray's Standard Railway Equipment Division is our exclusive sales agent in the U.S. and Canada for Bower "Red Cap" journal box roller bearings.

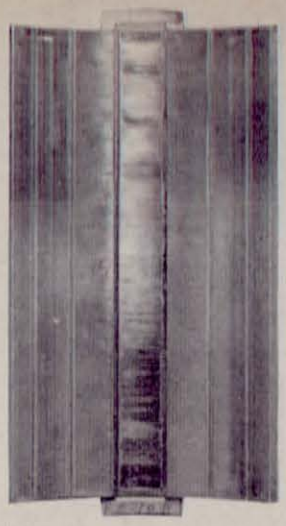
For details on the Bower "Red Cap" bearing, call your Standard representative; or write us: Bower Roller Bearing Division, Federal-Mogul-Bower Bearings, Inc., 3040 Hart Ave., Detroit 14, Mich.

BOWER ROLLER BEARINGS

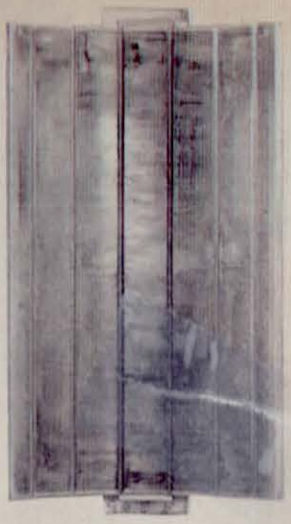
FEDERAL-MOGUL-BOWER BEARINGS INC

5 hours: Severe Fail
Oil A

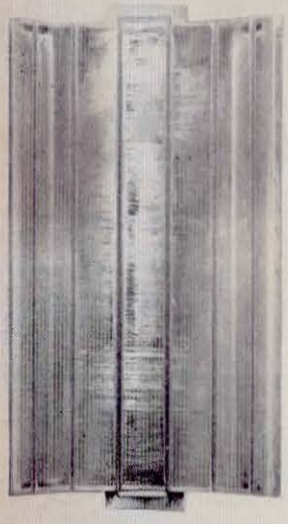
5 hours: Severe Fail
Oil B



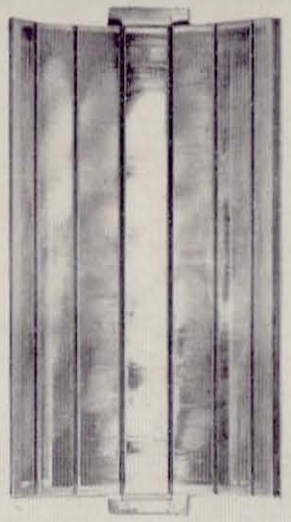
5 hours: Borderline
Oil C



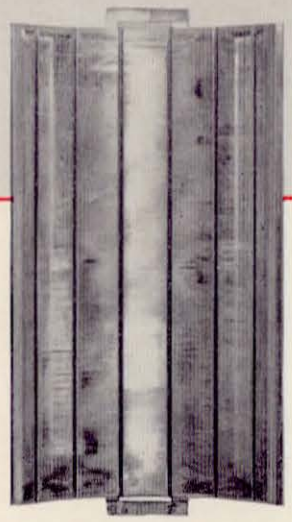
5 hours: Borderline
Oil D



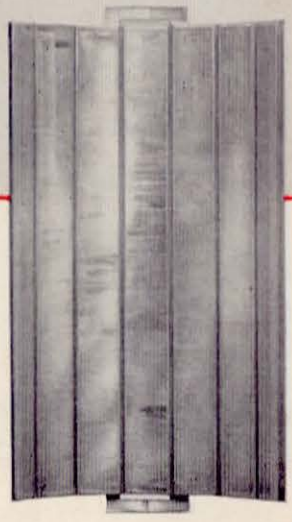
5 hours: Good
Oil E



5 hours: Excellent
Oil F



5 hours: EXCELLENT
DTE Oil
4 DR



100 HOURS: EXCELLENT!

New
MOBILGARD
414

Eight oils were tested on silver bushings. Result:

The eight oils tested are all in current railroad use—offered by six different producers for railroad diesels. In the most difficult test of all—the accelerated-wear test on silver wrist-pin bushings—only three oils rated excellent. Two of them are Mobil products.

One was improved DTE® Oil 4 DR. It passed the critical first five hours' test with excellent results, when several oils were failing in less than five.

The other Mobil oil was new Mobilgard® 414. It took the full-load, two-hole test for the specified five hours, keeping the unflashed bushing in almost new condition. Then it went for 95 hours more, still keeping the bushing in excellent running condition, as shown above.

What about other tests? Both Mobil products were submitted to the complete battery of standard tests: anti-wear, oxidation stability, silver corrosion, friction and lubricity, filterability, engine cleanliness, bearing protection and water tolerance. Results? They graded good or better in every test, promising superior protection for both normal and turbocharged diesels.

Which should you be using—Mobilgard 414, or DTE Oil 4 DR? It will depend on your own fuel and operating conditions. See your Mobil representative for a full technical report on both, as well as a recommendation. Mobil Oil Company, 150 East 42nd Street, New York 17, N.Y.

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RAILROAD PRODUCTS

98 years of helpful association with America's Railroad Industry

Market Outlook

Carloadings

Loadings of revenue freight for the week ending Sept. 28 were not available as this issue went to press.

PIGGYBACK CARLOADINGS.—U.S. piggyback loadings for the week ended Sept. 21 totaled 17,613 cars, a new high, compared with 15,493 for the corresponding 1962 week. Loadings for 1963 up to Sept. 21 totaled 575,137 cars, compared with 507,028 for the corresponding period of 1962.

IN CANADA.—Carloadings for the seven-day period ended Sept. 14 totaled 77,885 cars, compared with 66,111 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Sept. 14, 1963	77,885	20,179
Sept. 14, 1962	76,285	21,931
Cumulative Totals		
Sept. 14, 1963	2,473,975	804,294
Sept. 14, 1962	2,507,889*	844,414

*Revised.

Canadians begin big wheat movement

The Canadian Wheat Board has devised a master plan covering freight-car allocation for the massive movement of 228 million bushels of wheat and wheat flour from Prairie elevators to Canadian ports for shipment to Russia. The plan also allocates cars for regular Canadian grain movements.

The $500-million Russian order represents 114,000 freight-car loads, enough to form a train 850 miles long. Coupled with regular grain shipments, it will require Canadian railroads to move 50 million bushels a month for the next 10 months to meet export orders.

The Canadian National and the Canadian Pacific have a total of about 106,000 box cars available, with about 30,000 normally involved in moving grain.

The record Russian sale, according to officials, is expected to tax both rail and port facilities to the limit. Rail shipments are now in full swing.

The Canadian Pacific is employing a giant computer to keep track of the movements of their cars. CP will handle the major portion of the nation's total wheat shipments, carrying some 330 million bushels.

New Equipment

FREIGHT-TRAIN CARS

► *Genessee & Wyoming.*—Is inquiring for 200 100-ton hopper cars with MacGregor sliding roofs (RA, April 1, p. 21).

► *Grand Trunk Western.*—Will install FreightMaster cushioning devices in 21 existing 50-ft, 50-ton box cars for use in hauling automobile parts.

PIGGYBACK

► *REA Express.*—Is leasing 13 85-ft piggyback cars from General American for its TOFC service.

► *Soo Line*—Purchased 10 85-ft flat cars for TOFC service from Pullman-Standard. The order brings to 40 the number of 85-ft TOFC flat cars in the Soo fleet.

SPECIAL

► *Reading.*—Is leasing 40 new rail-highway trucks for track inspection and tool movement from Berman Leasing Co. The new vehicles, adapted from standard pick-up truck chassis, have regular truck propulsion and braking. Conversion to rail use is done through two pairs of flanged wheels on torsion bars. Ten of the vehicles have already been delivered to the railroad.

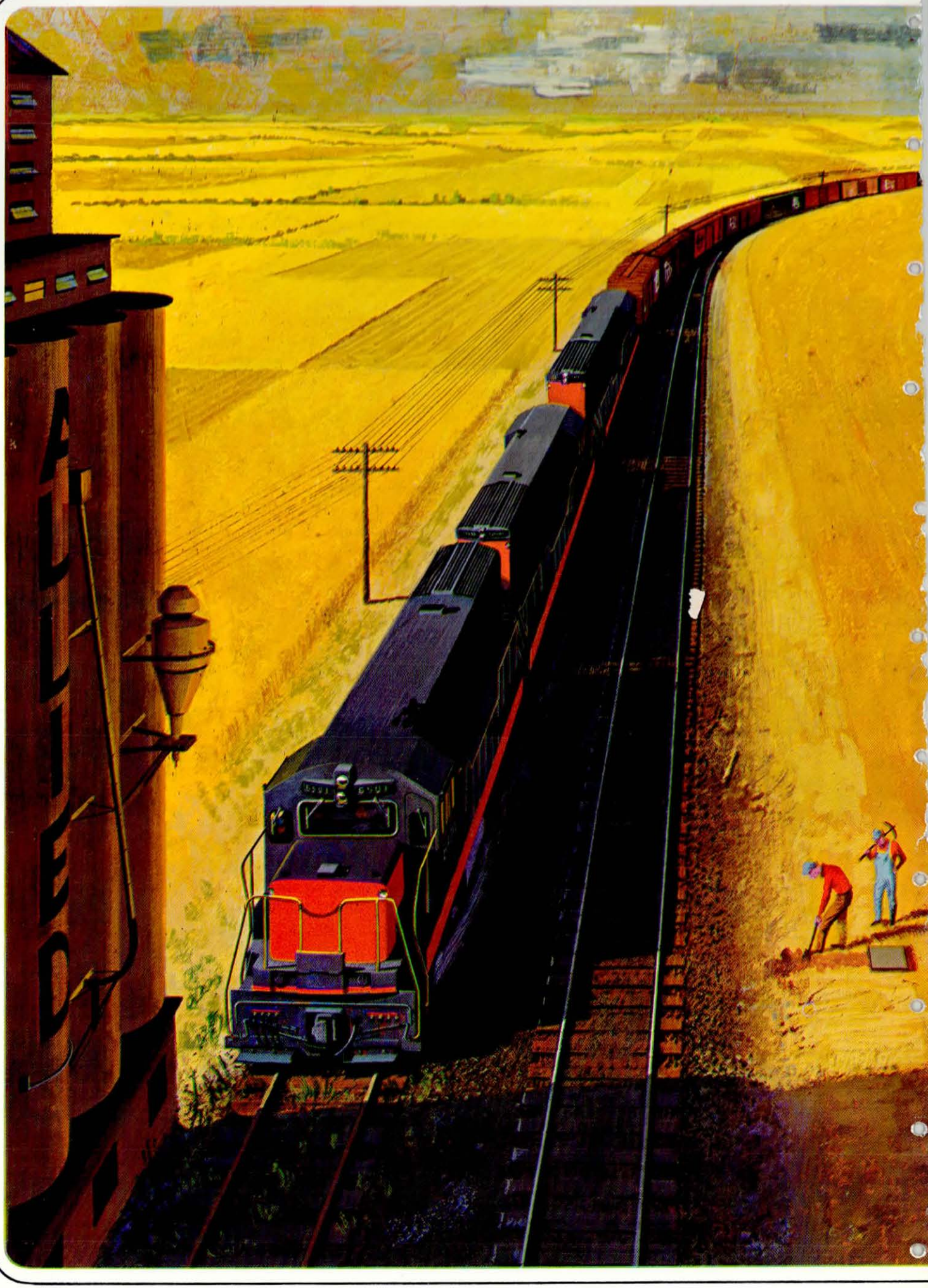
New Facilities

► *Canadian National.*—Has awarded three contracts for fabrication of steel bridge structures for the Great Slave Lake Railway in the Northwest Territories. Two 200-ft deck trusses and two 40-ft deck plate girder spans for crossing of the Upper Hay River will be supplied by Dominion Bridge Co., Ltd. Dominion Bridge will also build a 105-ft and two 30-ft deck plate girder spans for the Steen River Crossing. Bridge and Tank Western, Ltd., and Maple Sutherland, both of Winnipeg, will supply two 160-ft through trusses and a 225-ft through truss span for the Lower Hay River Crossing on the Pine Point Branch.

► *Louisville & Nashville.*—Will build a major automobile-handling facility at Nashville, Tenn., and a new piggyback ramp at Hopkinsville, Ky. The Nashville facility will be located at the L&N's Radnor Yard to provide a distribution point for new automobiles in that area. It will include a movable unloading ramp with two stub-end tracks and a three-acre paved storage yard. The new piggyback loading ramp at Hopkinsville will permit the railroad to provide TOFC service to that area.

► *Santa Fe.*—Ordered 45 sets of radio equipment from Union Switch & Signal division of WABCO for installation on cabooses.

► *Soo Line.*—Will install two hotbox detectors at Sheridan and Hewitt, Wis., which will report overheated journals or dragging brakes to the Stevens Point dispatcher's office. When alerted by a high reading on the print-out tape, the dispatcher will notify the train crew by radio to stop and inspect the train. The detectors, known as Wheel Thermo Scanners, are furnished by General Railway Signal Co. The installation will cost about $40,000 and will be ready for service in December.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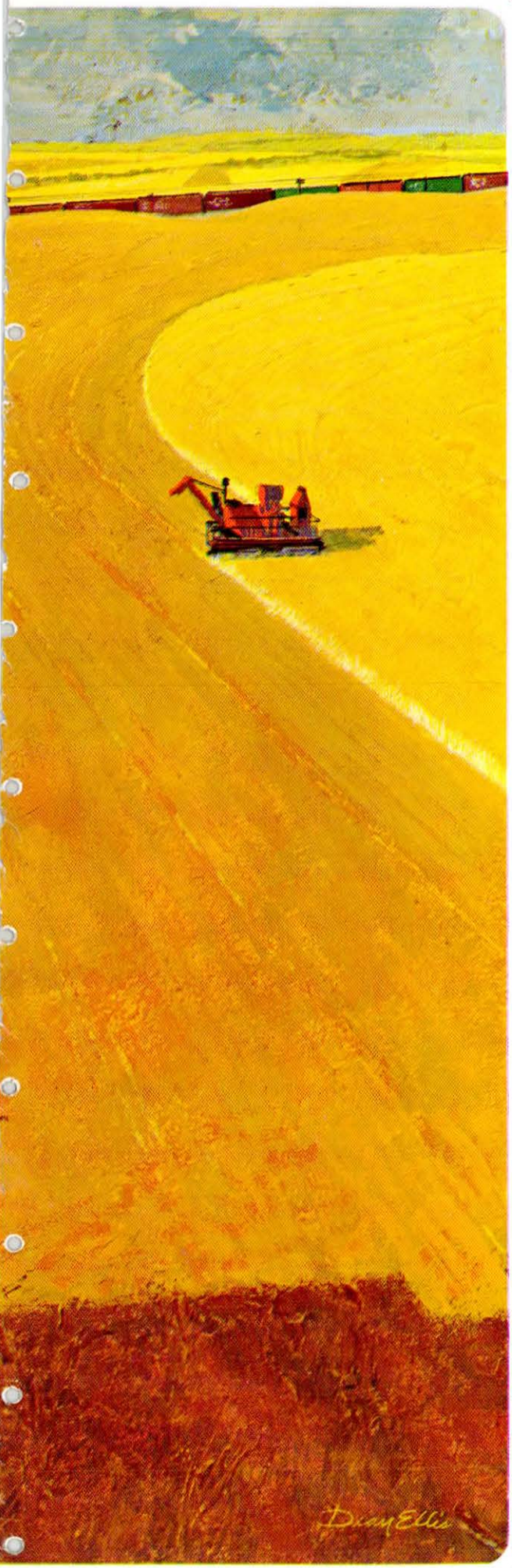


U25B completes 14,000,000 unit miles on 8 major American railroads

General Electric 2500-hp diesel-electric locomotives are now logging over one and one-half million miles a month as more railroads attain faster service at lower cost with the U25B.

On one railroad U25B's are averaging 18,000 miles a month . . . four times more than the 1962 national average for freight locomotives. Scheduled running times have been cut 20 percent, while operating costs were reduced.

Further, U25B's are bringing turn-around service on one section of a railroad that previously required two consists to meet schedule. Full 2500-hp enables high speed on grades and fast acceleration to cut running time.

Your railroad can reduce costs and improve service with modern U25B locomotives. For information on how the U25B matches your railroad's requirements, let a General Electric transportation engineer prepare a detailed application study for your consideration. 117-20

GENERAL ELECTRIC

SAN LUIS POTOSI: First Mexican-assembled diesel locomotive.

Pan American Congress meets in Mexico City

On tap for delegates: a ride over the spectacular Chihuahua al Pacifico, and a look at the first Mexican-assembled diesels.

The XI Pan American Railway Congress, which opens in Mexico City Oct. 18, will differ from the American Railway Progress Exposition in one important respect: the "outdoor exhibits" will be on a somewhat vaster scale.

These "exhibits," several hundred miles apart, will take the form of side trips to the celebrated Chihuahua al Pacifico Railroad; the diesel shops of the National Railways of Mexico (NdeM) at the colonial town of San Luis Potosi; and the government owned freight-car shops at Ciudad Sahagun.

● **Showcase railroad.** The most spectacular rail line in Mexico—and, mile for mile, the costliest—is that portion of the Chihuahua al Pacifico which slashes through the towering peaks and mile-deep canyons of the western Sierra Madre mountains. Finished in 1961 at a cost of $125 million, this 160-mile section of the Ch-P completes the rail link between the port of Topolobampo, on the Gulf of California, and the Texas border towns of Presidio and El Paso. The line covers some of the world's most difficult railroad terrain and has 71 tunnels and 25 bridges. There are two freight trains a day in each direction, and two passenger trains weekly. A Pan American Congress party will ride one of these passenger trains between Chihuahua and Topolobampo on Oct. 25-26.

● **Home-made diesels.** The big event at San Luis Potosi, which a Congress group will visit Oct. 22, will be the unveiling of the first diesel-electric locomotive assembled in Mexico. Actually, four of these locomotives—designated SLP-1, SLP-2, SLP-3 and SLP-4—have already been assembled and successfully tested. They were built from parts recovered from old locomotives (including wrecks) and from spare parts that were gathering dust on warehouse shelves. They combine, in a single unit, components from several manufacturers—Alco, General Motors, General Electric—and are locally referred to as "SLP salad."

NdeM's present fleet consists of 264 Alco units (including 80 being delivered this year by Montreal Locomotive Works); 266 General Motors units; 9 from General Electric; and 27 Baldwins. An additional 80 will be purchased in 1964, completing dieselization of the system. NdeM proposes to meet replacement and expansion needs by assembling its own units at San Luis Potosi—perhaps 20 each year—purchasing major components from U.S. suppliers on the basis of competitive bidding.

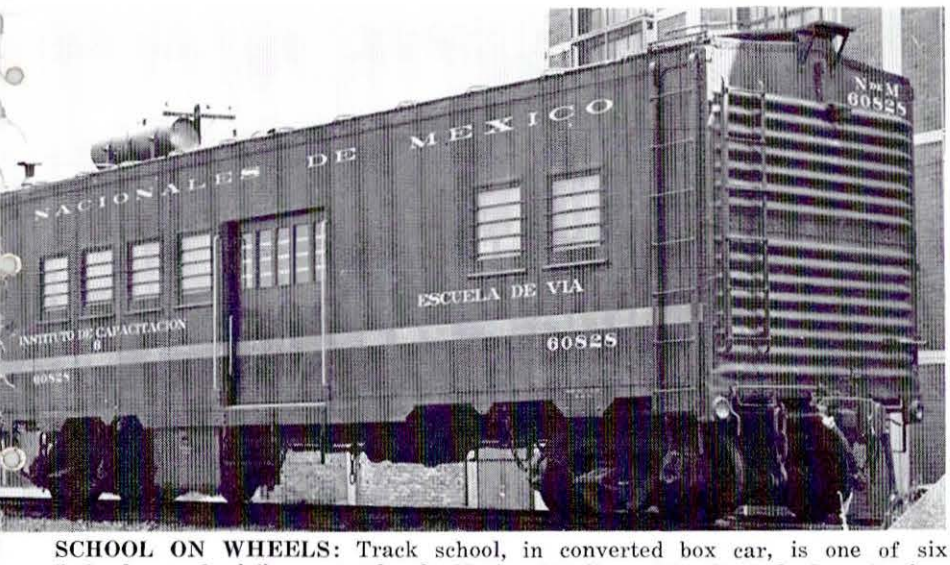
NdeM readily concedes that it may be more expensive to assemble its own locomotives than to buy the complete package from the U.S. (an estimated $215,000 for local assembly vs $205,000 for an 1800-hp unit delivered from the U.S.). However, local assembly will permit 17½% of the total money spent to be retained in Mexico. The railway also hopes to achieve lower operating, maintenance and training costs.

● **Desert miracle.** For North American observers, one of the most astonishing sights in Mexico may well be the freight-car shops of Constructora Nacional Carros de Ferrocarril at Ciudad Sahagun. What is now the thriving industrial complex of Sahagun was, only a few years ago, an impoverished strip of desert. The first Mexican-built car came off a line at Sahagun in 1954; today more than 12,000 cars stamped "Hecho en Mexico" are in service throughout the country; and 100 "Made-in-Mexico" cars have crossed the Rio Grande for service on the Missouri Pacific. A visit to the modern Sahagun shops is on tap for Congress delegates Oct. 30.

● **Chicago to Mexico.** Many of the U.S. and foreign visitors attending the American Railway Progress Exposition will head directly for the Pan American Congress when the ARPE curtain rings down Oct. 16.

Heading the U.S. delegation will be AAR President Daniel P. Loomis, who is chairman of the United States National Commission in the Pan American Railway Congress Association. Other commission members: Donald S. Beattie, executive secretary, Railway Labor Executives' Association; John W. Bush, member of the ICC; William T. Faricy, former AAR president; Sam H. Flint, general traffic manager, Quaker Oats Co.; James G. Lyne, editor, Railway Age; Donald L. Manion, president, American Short Line Railroad Association; C. D. Martin, Jr., under secretary of commerce for transportation; Edward T. Martin, assistant secretary of state for inter-

MADE IN MEXICO: Since production began in 1954, government-owned shops at Ciudad Sahagun have rolled out 12,000 new cars built to AAR specifications.



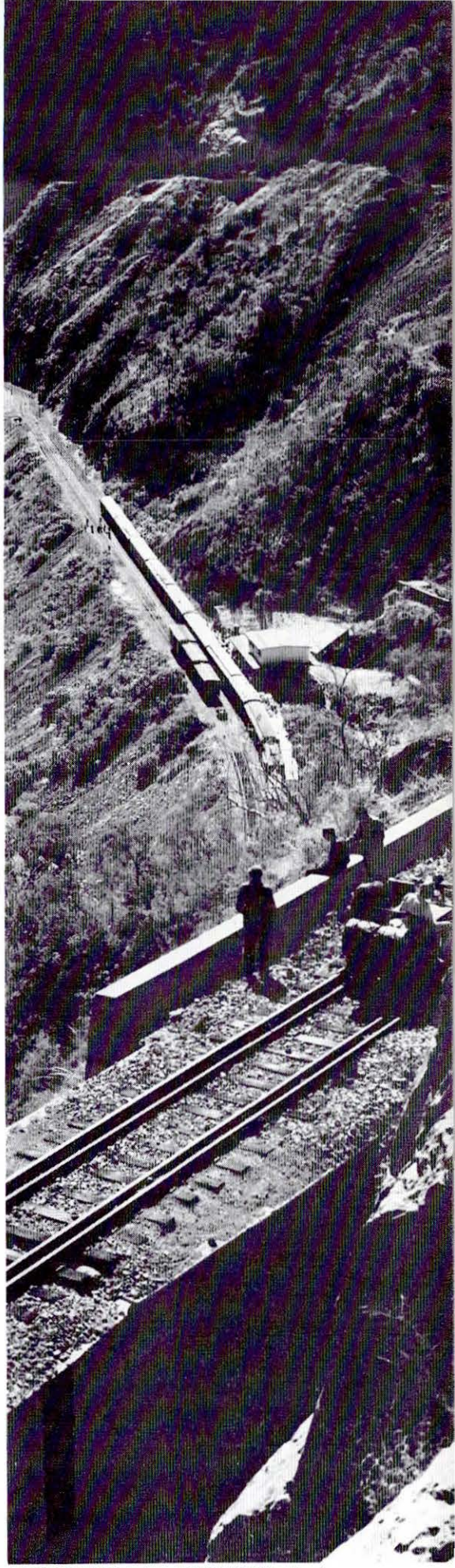
SCHOOL ON WHEELS: Track school, in converted box car, is one of six "schools-on-wheels" operated by the National Railways' Instituto de Capacitacion.

American affairs; P. J. Mullaney, vice president — traffic, Boston & Maine; and Byron Nupp, attached to the office of the commerce under secretary for transportation, who is executive secretary of the commission.

Among other U.S. delegates will be ICC member Howard Freas; John W. Barriger, president of the Pittsburgh & Lake Erie; Santa Fe President Ernest Marsh; Texas & Pacific President J. T. Suggs; Curtis Buford, vice president—operations and maintenance, AAR; Albert R. Beatty, AAR assistant vice president; J. W. Porter, executive vice president, General Railway Signal Co; and Nelson C. Dezendorf, former vice president of General Motors and general manager EMD.

Louis Armand, secretary general of the International Railway Union (UIC), will conduct a session of the Congress on Oct. 21.

The 14-day Congress will end Oct. 31. President of the Congress is Walter C. Buchanan, Mexico's minister of transport and communications. Among others figuring importantly in the Congress will be Benjamin Mendez, general manager of the NdeM.



CHIHUAHUA AL PACIFICO: A view from the "balcony."

SOUTHERN'S 750 SHOW THE MERIT DURING 3½ YEARS OF

Substantial savings were realized in the initial cost of these cars when Cobra Shoes were specified. The uniform high frictional characteristics of these modern brake shoes permitted the use of a lighter and less complicated brake arrangement. Reduced maintenance plus added wheel and shoe life are also contributing important operating economies.

GIANT GONDOLAS OF COBRA® SHOES SATISFACTORY SERVICE

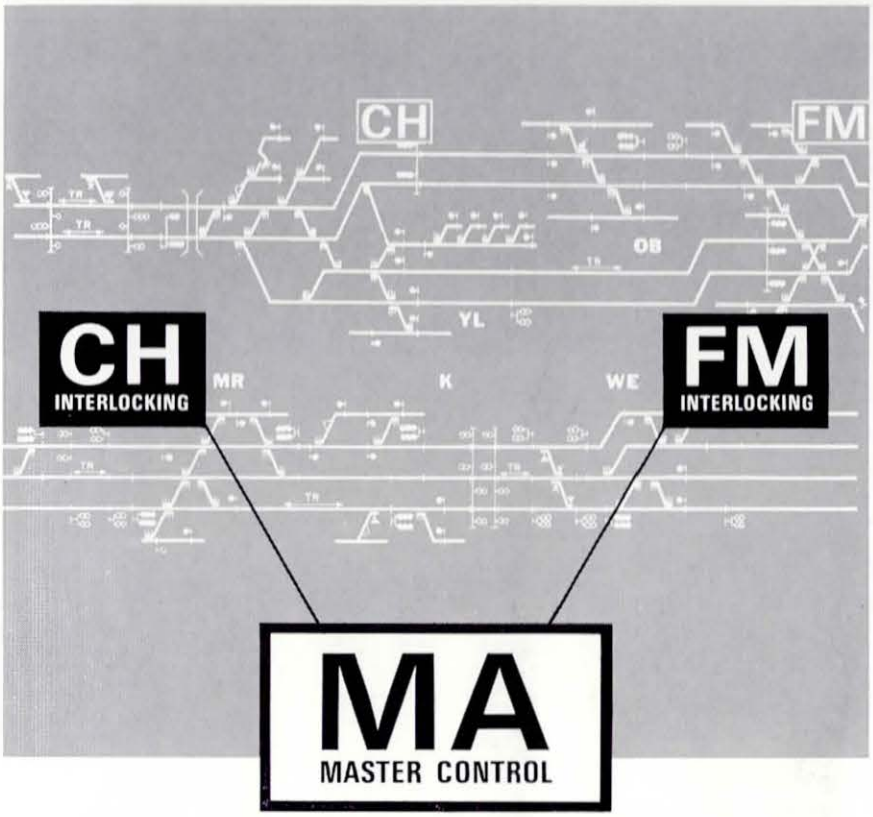
RAILROAD FRICTION PRODUCTS CORPORATION, Wilmerding, Pennsylvania

THE COBRA SHOE . . . a product of the combined research facilities of

WESTINGHOUSE AIR BRAKE COMPANY . . . . . Specialists in Braking

JOHNS-MANVILLE CORPORATION . . . . . Specialists in Friction Materials

P&LE consolidates interlockings with Noller solid-state control system



Successful consolidation of two large interlockings at McKee Rocks has been made by the P&LE using a Noller solid-state control system. Previous consolidations had used relays, but small space availability plus the need for high speed command response, made further consolidation using relays undesirable. This Noller solid-state system utilizes phase-shift modulation to transmit over 400 indications and control commands on a single 2-wire circuit between master control MA and 2 interlockings CH and FM. It controls 19 crossovers, 15 turnouts, 2 traffic levers, 42 signals and 3 electric locks. All changes of indications are continuously updated. Furthermore, the system offers lower initial cost over comparable relay equipment plus high security command coding techniques and simple, plug-in future expandability. An off-normal operating condition can be isolated and normal service quickly restored with earphones, a multimeter and plug-in replacement assemblies. In addition to these important advantages, this Noller solid-state system was delivered to P&LE in 30 days and was fully operational on the line in 90 days!

Noller solid-state control and reporting systems are available for almost every railway application. Some are simple 1-way 2-function systems; others are control, alarm and telemetering systems that perform literally hundreds of functions in multiple locations. We'd like to tell you more about them. Why not call or write for details?

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CONTROL SYSTEMS, INC.
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Salvation through merger?

An ICC examiner's favorable report on MP control of C&EI underscores the merger trend.

The railroad modernization program's merger phase, with its over-all design of converting the present complex into profitable systems, got another boost late last month. ICC Examiner Hyman J. Blond recommended that the Commission approve control of the Chicago & Eastern Illinois by a road able to alleviate its financial plight and disposed to develop its facilities.

Examiner Blond's choice of Missouri Pacific, as against the competing Illinois Central (RA, Sept. 30, p. 7), was based on his conclusion that plans of the MoPac, which would acquire ownership of a route into Chicago, contemplate increased use of C&EI facilities. IC plans, as the examiner explained them, contemplate principally operating economies through coordination arrangements which would involve abandonment of many C&EI facilities.

The choice is thus like that made recently by Examiner Paul C. Albus in his proposed report on competing Santa Fe and Southern Pacific applications for authority to control Western Pacific. Mr. Albus chose the Santa Fe, the road with plans for continuing development rather than curtailment of facilities.

● **Require Commission clearance.** Both reports, of course, must still clear the Commission, but the Commission thus far has a consistent record of approving all major acquisition-of-control and merger cases of recent years. On this approved list are Nashville, Chattanooga & St. Louis' merger into Louisville & Nashville, Virginian's merger into Norfolk & Western, the Erie-Lackawanna merger, Southern's control of Central of Georgia, Chesapeake & Ohio's control of Baltimore & Ohio, and Detroit, Toledo & Ironton's control of Ann Arbor.

Favorable proposed reports before the Commission, in addition to those in the C&EI and WP cases, include another Blond report recommending approval of the proposed Seaboard Air

Line-Atlantic Coast Line merger; and Examiner Lester R. Conley's report recommending approval of N&W's plan to build a 7,750-mile system by absorbing the Nickel Plate, leasing the Wabash and Pittsburgh & West Virginia, and buying the Akron, Canton & Youngstown and the Pennsylvania's line between Columbus, Ohio, and Sandusky.

C&EI's plight of being "sorely in need of financial assistance" was of "primary persuasive force" in shaping Examiner Blond's recommendation that the Commission approve MoPac's control application. This does not mean, however, that a road must be in financial straits to get absorbed into a strong system. In his report in the WP case, Examiner Albus headed into contentions, based on WP's relative prosperity, that acquisition-of-control proposals should be approved only when the roads to be acquired need financial assistance. "It is not essential that the carrier to be acquired be financially weak or in need of rehabilitation," Mr. Albus said.

In recommending denial of IC's competing application for authority to control C&EI, Examiner Blond also advised the Commission to deny Louisville & Nashville petitions in the case, which is Finance Docket No. 21755 and related proceedings. These L&N petitions ask that any road authorized to control C&EI be required to sell or lease, to L&N, the C&EI's Evansville-Chicago line, which would give L&N a direct route into Chicago. L&N was originally an applicant for authority to control C&EI, but it abandoned that role to become an intervener, petitioning for the Chicago-line condition.

● **Possible ICC violations.** Another phase of the case is an investigation by the Commission's Division 3 into possible violations of the Interstate Commerce Act by MoPac and L&N in connection with their acquisitions of C&EI securities. Examiner Blond recommends that the investigation be dismissed on the basis of findings that there were no unlawful acquisitions of control.

MoPac and L&N have substantial holdings of C&EI securities, enough to exercise some 25% and 27%, respectively, of the voting power, if all conversion rights were exercised. Both roads have trusteed these holdings, and Examiner Blond said of MoPac: "The preponderance of evidence is more in support of the conclusion that Missouri Pacific acted to insulate its interests from any control over Eastern, than it is convincing that control was unlawfully sought, attained, or exercised." Of L&N, he had this to say: "There is less validity to allegations that Dixie Line unlawfully acquired control of Eastern than surrounded Missouri Pacific's purchases of the affected securities. . . . Despite its substantial ownership, it is obvious that Dixie Line has not been and is not in a predominant position of strength in regard to Eastern's situation."

IC has no present ownership of C&EI securities. If its application were approved by the Commission, it would "undertake to acquire by purchase whatever capital stock and securities would be necessary to effectuate control," the proposed report said.

C&EI is an independent bridge line operating 862 miles of road. Its lines extend from Chicago southwardly to connections including those at St. Louis, with MoPac and other roads; and easterly to Evansville, where there is a connection with L&N.

● **MoPac vs IC control.** Explaining his conclusion that MoPac control would be best for C&EI, Examiner Blond said "implementation of Illinois Central's proposal would eliminate Eastern as an effective competing railroad." IC, the proposed report also said, "contemplates no increase in traffic by diversion from other railroads. It relies primarily upon forms of consolidation and elimination of portions or all of Eastern's administrative, executive, and accounting activities, and joint use of Illinois Central's corresponding facilities. Where advantageous yards, terminals, and other portions of line would be abandoned, new facilities would be constructed, and existing trackage-rights operations would be modified. The only area in which Eastern's policy independence would be retained, would be within its traffic and sales department."

The suggested coordination projects would entail removal of "a considerable fraction of Eastern's physical plant and reduction in its work forces." Examiner Blond continued, adding: "Thus Eastern's operating capabilities would be restricted to the point that in the event control by Illinois Central is voluntarily or otherwise terminated in the future, it would not be practical to reestablish Eastern as an independent operating railroad."

On the other hand, the examiner sees this prospect in control by MoPac: "The anticipated operating and other improvements which would result would increase Eastern's capacity to compete with other railroads within the Chicago area and between Chicago and other points served by Eastern. The Missouri Pacific-Eastern routes which have heretofore not been available to shippers, would confront the other railroads with the need to improve their respective train schedules and services. Such developments would result in better transportation service to the public. Eastern's greater gross revenues which the new traffic would generate, and the net earnings therefrom, would be available to apply toward the reduction of the outstanding indebtedness, and otherwise to bolster Eastern's financial condition," Examiner Blond advised the Commission.

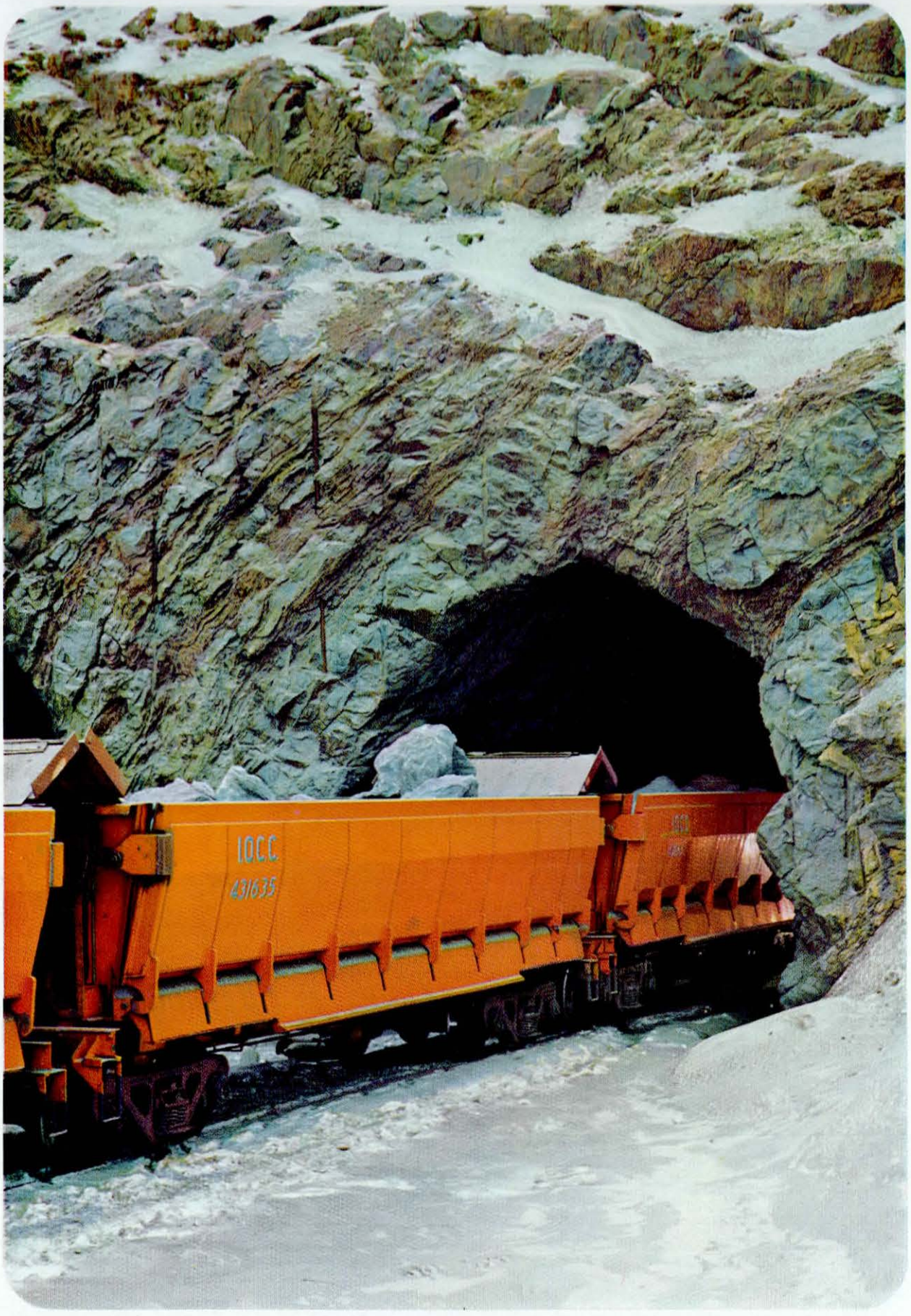
● **'Open-route' condition.** Giving MoPac a direct line to Chicago was the "chiefly disturbing" phase of his recommendation, Examiner Blond said. He met it by recommending that the Commission impose an open-route condition in addition to the usual ones. While the usual conditions require maintenance of existing routes, the additional one would require, too, that "all new through routes and newly established train service over the Missouri Pacific-Eastern combined lines shall be published open and without prejudice to participation by any railroad connecting with Eastern or Missouri Pacific, at the terminals and/or intermediate points served by the new trains."

The examiner would also have the Commission impose the usual employee-protection conditions.

Symes steps down

James M. Symes

James M. Symes, who stepped down as chairman and chief executive officer of the Pennsylvania Oct. 1 after 47 years' continuous service with the PRR, entered retirement voicing optimism for the future of the industry. Asserting that the railroads appear to be "on their way back to becoming one of the blue-chip industries," Mr. Symes also told an interviewer: "What we have so long advocated had to come along. Mergers, elimination of featherbedding, tax relief, more freedom in meeting price competition, the reduction in the passenger deficit, piggybacking and other technological improvements were all bound to occur. We're making real progress now. We are much nearer our goal than we have ever been." Mr. Symes joined the Pennsylvania as a clerk in 1916 and spent his entire career with that railroad. He has been succeeded by S. T. Saunders, who came to the PRR from the presidency of Norfolk & Western.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Improve car use by cutting yard delays

How can today's expensive freight cars be made to spend more time on the road and less in terminals? A consulting firm recommends railroads take a look at a new classification plan.

Railroad men hiking up and down the tracks at Illinois Central's 31st Street Yard during the Exposition will all be inspecting the same equipment —but they'll all probably be seeing it in a slightly different light.

Marketing officers will be looking at new car designs with an eye to the business such equipment can help them hold or recapture. Operating men will be relating what they see to improved efficiencies in operations and maintenance. Presidents, directors and finance officers will be seeing dollar signs, wondering if the payoff will justify the initial outlay for today's higher-priced cars.

● **Common interest.** Through all these varying viewpoints, however, runs a common thread: Profits which such new equipment can generate are tied directly to the efficiency with which railroads can make the cars work. And the evidence indicates that this is an area where (a) there's plenty of opportunity for improvement, and (b) even small gains can bring big returns.

With statistics showing that the average loaded freight car spends more than 75% of its time in terminals and only about 25% in actual over-the-road movement, much of the recent effort to improve operating efficiencies has centered on elimination of yard delays—including the delays created by repeated rehandling of cars.

One new concept in classification—one which looks toward the day of "push-button railroading" but also fits into today's operating patterns—was unveiled recently by Charles W. Hoppe, consultant with Peat, Marwick, Mitchell & Co. (RA, Sept. 30, p. 9).

Like the Post Office Department's ZIP code, the PEAT (for Precoding for the Effective Analyses of Trains) system uses a numerical code to indicate destinations.

● **Code development.** First step in setting up such a classification system, Mr. Hoppe notes, is a "careful, on-the-ground analysis of all operating locations so that like operations are grouped together. Each industry, interchange and team-track location must be analyzed and grouped with others which logically should be switched by the same crew. After the industries at a given location are grouped, each group is given a code number which places it in proper numeric and operating sequence with similar industry groups nearby or worked out of the same yard or station. . . . Likewise, all groups in a yard or station are placed in sequence with other yards in the terminal or other stations on the division. Finally the terminals and divisions are assigned numeric codes in sequence with other divisons and terminals on the railroad. The result is, in general, a four-digit code showing the major terminal or division in the first two digits, the yard or station in the third digit and the specific crew assignment in the fourth digit."

Coded punch cards

With all industries, interchanges and team tracks listed alphabetically (with their code numbers), it would be possible to apply codes to punch cards representing the waybills for each movement. Before building an outbound train, a yardmaster could sort the cards in numeric code sequence and come up with a list showing each car in station-order—even though the stations might be hundreds of miles away, even though the yardmaster might know nothing of the physical layout at the distant points.

● **Compromise blocking.** Mr. Hoppe concedes that some compromise with this optimum blocking must be made—through decision rules or guidelines applied by the yardmaster and based on careful analysis of local conditions, movement patterns, operating characteristics of destination terminals.

Even with less-than-optimum blocking in effect, however, he sees significant opportunities for reducing rehandling and for making more efficient use of hump-yard facilities (with consequent elimination of much flat switching).

PEAT-system operation contemplates classification of outbound trains before departure, as opposed to classification of inbound trains after arrival. It would, Mr. Hoppe believes, produce "far greater utilization of expensive hump facilities. The turnover of cars on the final classification tracks will be far greater because the tracks will be utilized several times per day. The initial classification tracks would be more fully occupied since they would include more general classifications. The number of different classifications made in a day would considerably exceed the number of class tracks available due to the turnover and re-use of individual tracks.

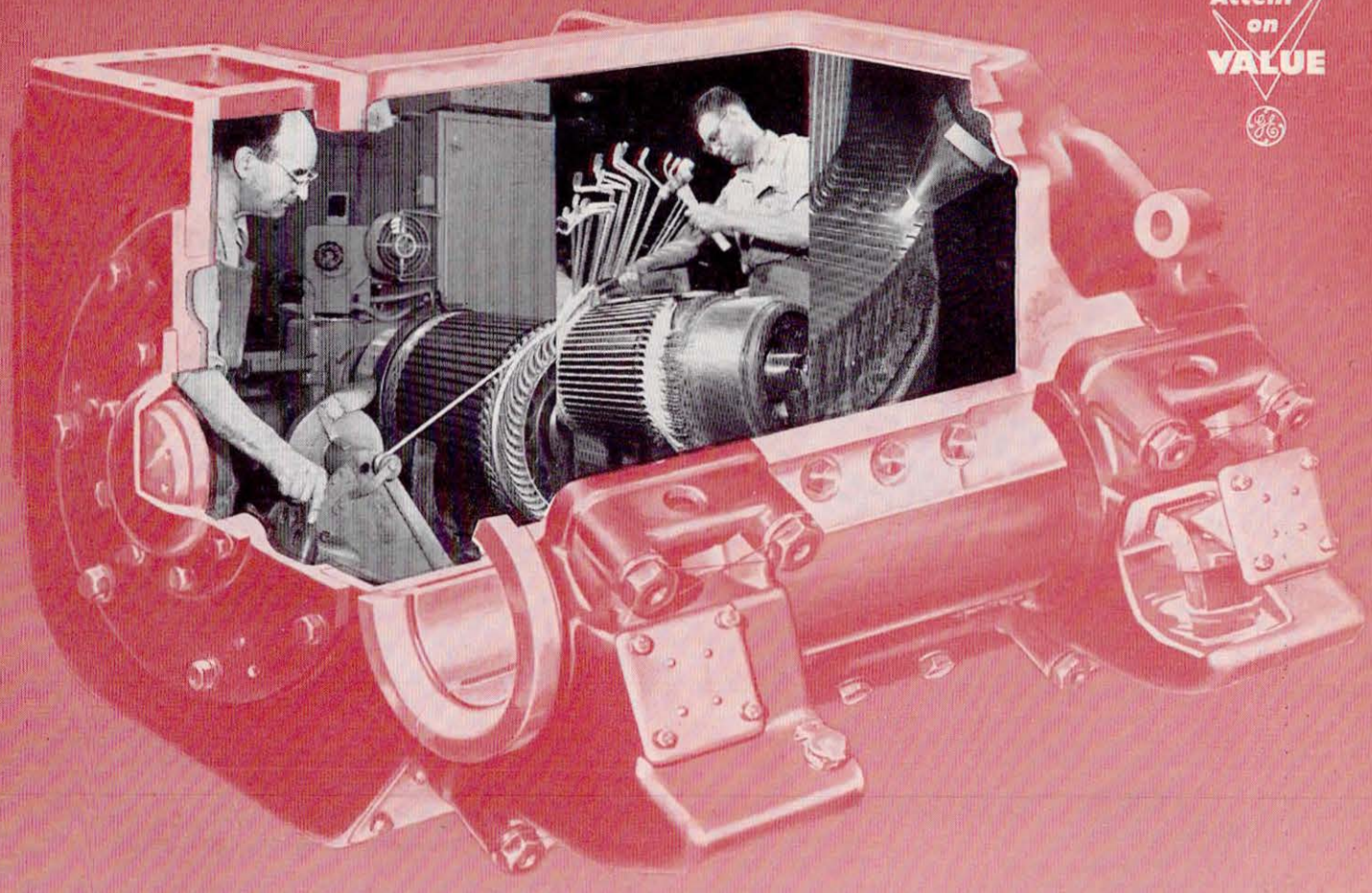
● **Automation ahead.** "Looking ahead, with the integration of this system into an over-all operations-information and decision-making system utilizing advanced computers, the day of push-button railroading may be close at hand. We are working on this development, and so is at least one major railroad. This development is still a few years off. However, the PEAT system, temporarily substituting decision rules for computer programs, is capable today of eliminating much rehandling of cars enroute from origin to destination. This will materially reduce transit times and improve the utilization of cars in short supply. In addition, the information generated by this system is ideal for the programming or scheduling of yard and road operations."

Benefits, Mr. Hoppe predicts, would pyramid—producing reduced switching costs, improved car utilization, the marketing advantages of reduced transit time and, in all probability, increased traffic for the railroads.

Specifically, he sees these advantages:

- Ability to adjust operations to traffic fluctuations on a train-by-train basis.
- Increased utilization of hump yards.
- Reduction in the number of yard-engine hours in flat switching.
- An automatic increase in the number of through cars which can bypass intermediate yards and terminals.
- Simplification of both traffic analyses and operations planning.
- Improvement in home routing and segregating of special cars through car-coding from origin point.
- Treatment of loads and empties with equal expediency.

By contrast, Mr. Hoppe contends, conventional systems do not adjust concurrent with traffic fluctuations; classifications are generally limited to the number of class tracks available; delays creep in because many blocks are merely from one major yard to the next and cars have to be rehandled before moving on to destination; and still further delays are created at destination with final break-up of trains, often at locations not so well suited for classifying as are major class yards.



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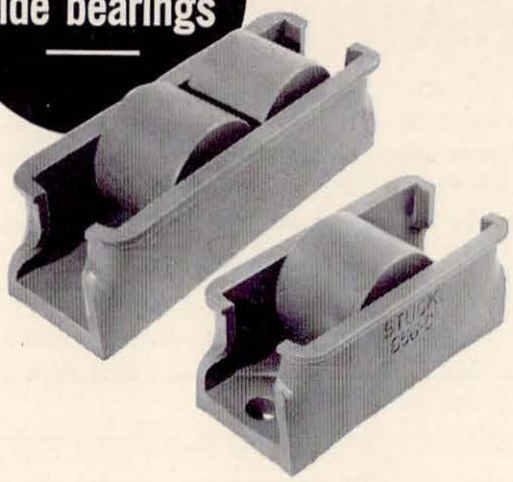

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Showtime at Chicago

(*Continued from page 10*)

dent Kennedy's transportation program (including support from rail labor unions, who originally opposed elimination of minimum-rate regulation but now have come around in support of the industry position).

Railroad officers, however, well know that improvement in basic areas—regulation, taxation, labor agreements—will require continuing effort, with no letdown until change is an accomplished fact. Industry speakers at the Exposition are expected to hit this point—that despite the gains made by railroads, now is no time to relax.

● **No resting on laurels.** Especially in the field of technological development, there seems to be no inclination whatsoever to take a break. Improvements have pyramided.

In the last year alone, for example, all three locomotive builders have come up with new diesel-electrics virtually doubling the horsepower ratings of previously available units (and one builder is moving into the diesel-hydraulic field).

Carbuilders, working with railroad operating and marketing men and shippers, are creating a new breed of freight car—60- and 85-foot box cars with cushion underframes and wide door openings, which may revolutionize auto-parts shipment methods; covered hopper cars with greater capacity and improved loading-unloading methods; lower, longer flat cars for piggyback and-or auto-rack service (including one car, on display at the Exposition, which is designed to handle virtually any mix of conventional semi-trailers, containers or Flexi-Van boxes); and a variety of other "exotic" cars designed to meet specific shippers' requirements.

● **Utilization improves.** Hand in hand with these developments go efforts to promote better utilization of the highly specialized—and expensive—freight cars. A few roads are working toward a car-control system tied into a computer; almost all are moving, one way or another, toward more efficient operation of special equipment.

Meanwhile, strides are being made in related areas—communications, for example, where considerable research has beeen put toward development of automatic car identification systems.

Similar strides have been made in one of the industry's biggest expense areas—track maintenance—through development of equipment designed to do a better job, faster, and with less manpower.

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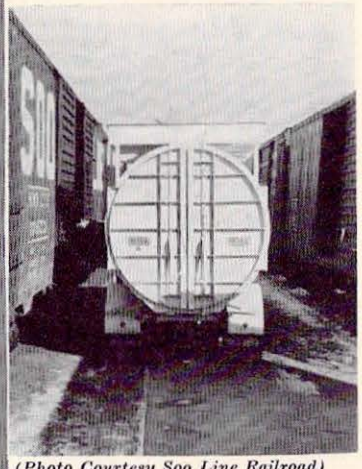

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What next for R&D?

The Chicago '63 Exposition is massive evidence of achievement, by suppliers and by railroads. But research-and-development men see today's achievements as a springboard to continuing refinement of the technology of railroading—and perhaps to the opening of entire new phases of research on the most basic elements of railroad operation. What they're thinking about now may be what railroad men—and the public—will see at the next big railroad exposition.

Railroads are getting set to welcome tomorrow with a firm handclasp and a hearty slap on the back. Reason: Tomorrow—and all the tomorrows that will make up the next decade—looks like a winner.

Part of this optimism springs from a better public understanding of transport problems—an understanding which has been converted into government action in certain areas and promises to bring still further improvements in the governmental arena where railroads are forced to operate.

• **Self-help hailed.** Another cause for confidence is the way the industry has been able to carry off a sort of Operation Bootstrap—the self-help angle. Nobody but the men running the railroads can be credited for the strides made in marketing; in breaking down internal barriers built up over a century; in the current drive toward more practical, business-getting rate-making; in bringing work rules more into tune with the times.

Finally—and far from least important—there's the promise of technology, put squarely before the industry and the nation as never before, during the American Railway Progress Exposition.

• **Base for the future.** The technological achievements of the hundreds of exhibitors at the Chicago '63 show form a solid base on which continued improvement in railroad operations and service can be built. And the outlook is for even greater emphasis to be put on both research and development and the application of new technology in the years immediately ahead.

Most observers see future developments moving in two directions—toward still further refinements of existing technology and, perhaps more important, toward research looking into entirely new areas.

One man close to the R&D scene puts it this way:

"Evolution in mechanical devices tends to follow the lines of biological evolution. Where many mutations appear, nature selects the most successful, and improvement in the breed proceeds fairly rapidly. Where there are no mutations, there is only marginal improvement."

• **Evolution continues.** Most of today's improvements, he points out, are essentially mutations, modifications—with the possible exception of the change from steam to diesel power. This evolutionary process can be counted on to continue. Chances are that the next big exhibit of railroad equipment, whenever it comes, will find suppliers displaying cars of still greater capacity, locomotives of still greater power with lower maintenance costs, track-maintenance and signal and communications equipment producing greater efficiencies and reductions in labor costs.

What this observer urges is a new study of some of the "fundamentals" of railroading. Among his proposals:

"What is needed is a thorough look at the basic structure of railroads, their throughway. Granted that the iron wheel on the iron rail is the most efficient way to move large tonnage at minimum cost, what can be done to make this cost even lower?

• **Roadbed: What's best?** "Maintenance of a railway's roadbed is one of the largest single items of expense in railroad operation. Is an iron rail, attached to a wooden tie seated on a bed of crushed rock the best roadway possible? Why not some other configuration, some other materials?

"The cost of wood and wood products is rising daily and, even more important from a national-economy point of view, [such products are] in short supply. Why not use substitute materials such as plastic, cement, metal for ties? A very limited investigation along these lines has been made in a number of isolated cases, but no significant investigation has been accomplished.

"For that matter, is a tie needed at all? This points up the need to objectively evaluate the roadbed of railroads. Not too long ago it was impossible to build a skyscraper without a tremendous framework of steel and walls of great thickness. Today, many such buildings are constructed without any framework at all, and/or with curtain walls which are only a few inches thick hung on a light metal frame. . . . It should be easy to translate this technology and the technology

of modern road-building to the problem of new approaches to railroad roadbed construction.

● **Car research vital.** "Equipment innovation is another area for truly fruitful research. Although the size and configuration of the box car, tank car and so forth have undergone dramatic changes in recent years, we still saddle cars with archaic running gear."

In the area of inter-railroad communications, this observer sees ample room for improvement: "This is not to say that there does not exist an adequate communications plant within the railroad industry. All roads have communications facilities which are fulfilling the needs of their respective managements. However, each road is a communications entity in itself, in which the effective transmission of information is confined to the limits of that road's property.

● **'Random pattern.'** "Frequently, where two roads meet and exchange a sizeable amount of traffic, there will be a special communications link between them. Thus we have a random pattern of isolated communities of roads throughout the industry system.

"Since there is no common course for information within the industry, there is no single place where a manager or customer can go to obtain timely information or a composite of timely information upon which to make a decision or exercise judgment. No capability exists of selecting information in programmed segments at random.

"Furthermore, within each road of any size there exist parallel networks, each serving a different requirement—car reporting, administration, motive power distribution, traffic reporting and so forth. . .

● **Total system needed?** "Paperwork and communications will continually grow and become more complex. Only a total data-communications system will bring them under control. At the same time, the discipline introduced by a total system will force management to decide what information it really wants and then impose a degree of standardization of reporting, coding and format among railroads.

At least five factors, it's pointed out, are putting new strains on communications in the area of equipment-utilization alone: increased emphasis on better utilization of special cars; the switch to a graduated per-diem scale; a "tremendous upheaval" in rate structures; the "inability of the associated paperwork to keep pace with the physical movement of a freight car;" and the recurrence of car shortages.

● **'A better job, faster.'** In brief, the problem is simply stated: "The industry is called upon to do a better and faster job—to produce better utilization of its resources, with increased control, at lower cost."

(Along these lines, there's a proposal—now in its formative stage—to inter-connect all individual railroad communications systems via a communications-switching and data-processing computer center. Among the advantages claimed for the project—Surcom—are a better utilization of the communications plant and the provision of more timely and more accurate data for operating, traffic and accounting departments and for management decision-making.)

IMPROVED ACI?

Consideration of improved communications, however, starts with original input—and that brings up the topic of automatic car-identification systems. ACI systems developed thus far depend upon a reflecting device mounted on each car. But at least one source in the industry is raising another possibility: Magnetic recording of data on car wheels—another area where "a few experiments have been conducted but no real attack has been mounted."

● **Recording problems.** Development of such a system would not be without problems. Shock, heat and magnetic fields could erase or distort the recordings. But "recordings on the face of the wheel as far from the tread as possible would seem to offer some protection from the damaging effect of heat. Further, an area which has not been explored and which should offer an ideal track for recording is the periphery of the wheel flange. This point, on the outer surface of the flange, would receive less abuse than any other part of the wheel [and] it would be fairly simple to track this edge over a write-read head. Another method might involve use of computer-generated tones. In this, the face of the wheel would complete an electro-magnetic path. A fairly strong signal could be impressed."

● **Railroads and the economy.** Where basic changes in railroad operation are concerned, one observed notes, there's a broad, nationwide effect: "A basic change in the railroad industry has such a tremendous resource leverage that it could affect the entire U. S. economy. Consider the possibility of all-electric railroad operation. A tremendous natural resource—coal—could be put to use for the generation of electricity. This would resurrect an industry threatened with extinction, would breathe new life into a major segment of the economy. It is not hard to imagine the far-reaching good consequences that such a transition would engender throughout the economic structure of the nation."

● **How to promote research.** Research, as many see it, must be a broad-based proposition—drawing on both external and internal talent: "Railroading is so complex and encompasses so many areas that improvements in almost all technological areas of our economy inevitably have a potentially salutary effect on the railroad system. In other words, innovations of other industries can be readily adapted for the improvement of railroad operations, provided the railroads know of their existence.

"The problem is two-fold—first to create an industry-wide climate that recognizes the importance of research to the future of railroading and then to establish the mechanics for recognizing, developing and implementing technological change."

In the minds of the research-and-development men, then, the Chicago '63 show is a tremendous testimonial to the technological achievements of the more than 350 companies participating — and a springboard for the further advances in railroad equipment and operational devices that will hold exhibit space at the next railway exposition.

YOU OUGHT TO KNOW

For the second week in a row, piggyback carloadings rose to a new all-time high, totaling 17,613 for the week ending Sept. 21.

Virginia legislators are preparing a bill that would outlaw bootleg trucking in that state. It is expected to be introduced in the General Assembly in January. Based on projections of a spot road check made in 16 locations in Virginia by the ICC, it is estimated that 1.11 billion pounds of cargo are being hauled illegally over the state's highways each year.

Busiest coastal port handling rail cars in August was—not New York, and not New Orleans—but Tampa, Fla. According to AAR figures, Tampa loaded and unloaded 8,450 rail cars, topping New Orleans' 8,152 and New York's 6,769.

Sleeping car porters are awaiting the report of a special Presidential emergency board before deciding on what action they will take against the Pullman Co., New York Central, Soo and Rock Island. Brotherhood President A. Philip Randolph says the porters will "go all the way" in their demands for shorter hours, higher wages and job security.

The freight-car repair program on the Erie-Lackawanna is being stepped-up at the railroad's shops at Meadville, Pa. About $3 million will be spent to overhaul 2,000 cars. The program includes 1,000 box cars and 1,000 gondolas, and calls for turning out 15 to 18 cars per day.

Sen. Barry Goldwater (R. Ariz.), will be the principal speaker at the annual report survey awards dinner sponsored by Financial World Oct. 30 in New York. Bronze "Oscar of Industry" awards will go to the Chesapeake & Ohio, the Southern, Pittsburgh & West Virginia, Denver & Rio Grande, Canadian Pacific, and AMSTED Industries for outstanding reports.

Two plans for a Los Angeles monorail rapid transit system have been rejected by the Los Angeles Metropolitan Transit Authority. The Authority said the plans, submitted by Alweg Corp. of New York and Goodell Monorail Systems, Inc. of Los Angeles, were not acceptable to governments of cities through which the elevated monorail would have run. Alweg had submitted a bid of $187.5 million for a 43-mile system from West Los Angeles east to El Monte and from Van Nuys south to downtown Los Angeles. Goodell's bid of $388 million covered approximately the same route in addition to a 17-mile line from downtown Los Angeles to International Airport.

The first showing of the Chesapeake & Ohio's new color film "Breakthrough in Transportation" was held recently at the West Virginia Industrial Exposition in Charleston. The movie traces the development of the Roadtrailer, a combination highway-rail vehicle developed by the C&O.

ICC hearings will be held Oct. 28 on requests of the Chicago South Shore & South Bend to reduce passenger service and change its passenger train schedules. The South Shore Line planned to put the new timetable into effect Oct. 1, but the ICC suspended action on both requests.

Two-in-one

This is a two-in-one edition of Railway Age, combining the Oct. 7 and Oct. 14 issues. The next Railway Age will be dated Oct. 21, 1963. Meantime, Railway Age Dailies will be published in newspaper format to cover, in depth, day-to-day events during the American Railway Progress Exposition in Chicago. They will be dated Oct. 9, 10, 11, 14, 15, 16.

An estimated $112 billion was spent by U.S. citizens in 1962 for both private and for-hire transport—a gain of 8.5% over 1961—according to figures compiled by the Transportation Association of America. Railroad transport outlays, including shipper costs for loading and unloading freight cars, exceeded $10 billion, or nearly 21% of the total freight bill of $48.3 billion. Passenger transportation accounted for $59.4 billion, most of it charged to the automobile.

A five-man panel has been appointed to study the transportation problems in the Boston-Washington travel corridor. Acting Secretary of Commerce Franklin D. Roosevelt, Jr., said the Public Advisory Committee includes Richardson Dilworth, chairman, former Philadelphia mayor; David Berger, former Philadelphia city solicitor; George Ellis, president of the Federal Reserve Bank of Boston; Arman G. Erpf, New York investment banker; John Gunther, executive director of the U.S. Conference of Mayors; and Arthur T. Row, Jr., chairman of the Department of City Planning, Yale University School of Art and Architecture.

Wood products customers on the Norfolk & Western are now being served by six 90-ton log cars, each of which can carry 60% more logs than a gondola and can unload almost instantly. The slatted cars carry logs in three separate compartments. At destination, a high rail or a pulley tilts the car slightly and a lever releases stakes holding the cargo in the compartments. The cars were built at the N&W's Princeton, W. Va., shops.

Improved commuter service in Philadelphia is being extended by the city through two new SEPACT operations on the Pennsylvania. Residents of west and southwest Philadelphia and some nearby Main Line suburbs will get the new service as a one-year experiment to begin Oct. 27. Improvements will include increased train service, better schedules for certain trains, and use of new air-conditioned Silverliner cars on some off-peak trains.

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One of the most pressing aspects of "the railroad problem" is: How can the industry finance the purchase of all or most of the equipment and materials which, if installed, would pay a highly remunerative return on the investment?

Technologically, then, railroads have modernity within their grasp. On this side of their business railroads are a match for any of the country's other major industries. When it comes to organization—corporate practices, labor union relations, pricing—the story is vastly different, and more somber. Railroads can buy and use all the improved locomotives, freight cars and signaling that they can pay for. But they cannot adapt the manning of their locomotives and trains in relation to the actual labor requirements of this new equipment. They have to man their locomotives and modern trains the way wooden cars and Consolidation steam locomotives were manned at the time of World War I.

If Ford and Chrysler and General Motors had to provide crews for factory operations the way the job was done in 1919, they would probably not be producing automobiles at current prices.

It is the principal characteristic of mass-production industries (and railroads are in this category) that they constantly improve their efficiency; and reduce the prices of their product, in relation to other prices. For example, electric power usually is priced much lower than it was 40 years ago. But a haircut (to which mass production cannot be applied) used to cost two bits, and now the charge ranges upwards to $2 and even more.

Regulation of railroad rates began 76 years ago —to prevent what was then a transportation monopoly from overcharging, and discriminating arbitrarily among its customers. It is continuing today —not to keep charges to customers from being too high—but, primarily, to prevent railroads from making rates so attractively low that they might divert tonnage away from barges and trucks.

It is true that rate regulation is not an unbreakable barrier to reform in railroad pricing. The Interstate Commerce Commissioners are reasonable men. They have permitted many adjustments in rates to reflect the economy of multiple-car movements and the use of larger cars. But procedures before the Commission are necessarily legalistic and time-consuming. Price changes that unregulated business can make overnight may require a year or more for the railroads, and may be then permitted only in part.

Suppose the steel industry could hail (say) the plastics or aluminum industries into court, to prevent them from reducing their prices. Or suppose aluminum and plastics could intervene to prevent reductions in the price of steel. We would have a much higher priced economy than we do—and a much lower standard of living. What railroads are trying to do in the reform of regulation and working rules is to make themselves just as modern in their operating practices and pricing as they are in their "hardware."

Contrasting the antique and modern

The other day some railroad public relations officers were talking about the high public interest aroused by displays of old diamond-stacked locomotives and wooden coaches. One of the participants conceded the public interest in historic equipment —and its legitimate use to attract wholesome public attention to the railroads' contribution to America's upbuilding. But, he added:

"If I had my way, I'd never display historic equipment without a parallel showing, at the same time, of the most modern locomotives and freight and passenger equipment that we have."

"And," he went on to say, "I'd call attention to the vast improvement we've made in our equipment in 75 years, pointing out that we are forced to operate under regulatory and working conditions that belong in a museum—along with our interesting old equipment."

Railroads, on the "hardware" side—where they are free of detailed governmental restraints—are as modern as the displays at the October Exposition in Chicago. When they can get some of this freedom into that side of their operations where government now holds the whip hand, a new and happier day will dawn for the industry, for its employees, its customers—and for its suppliers. Speed the day!

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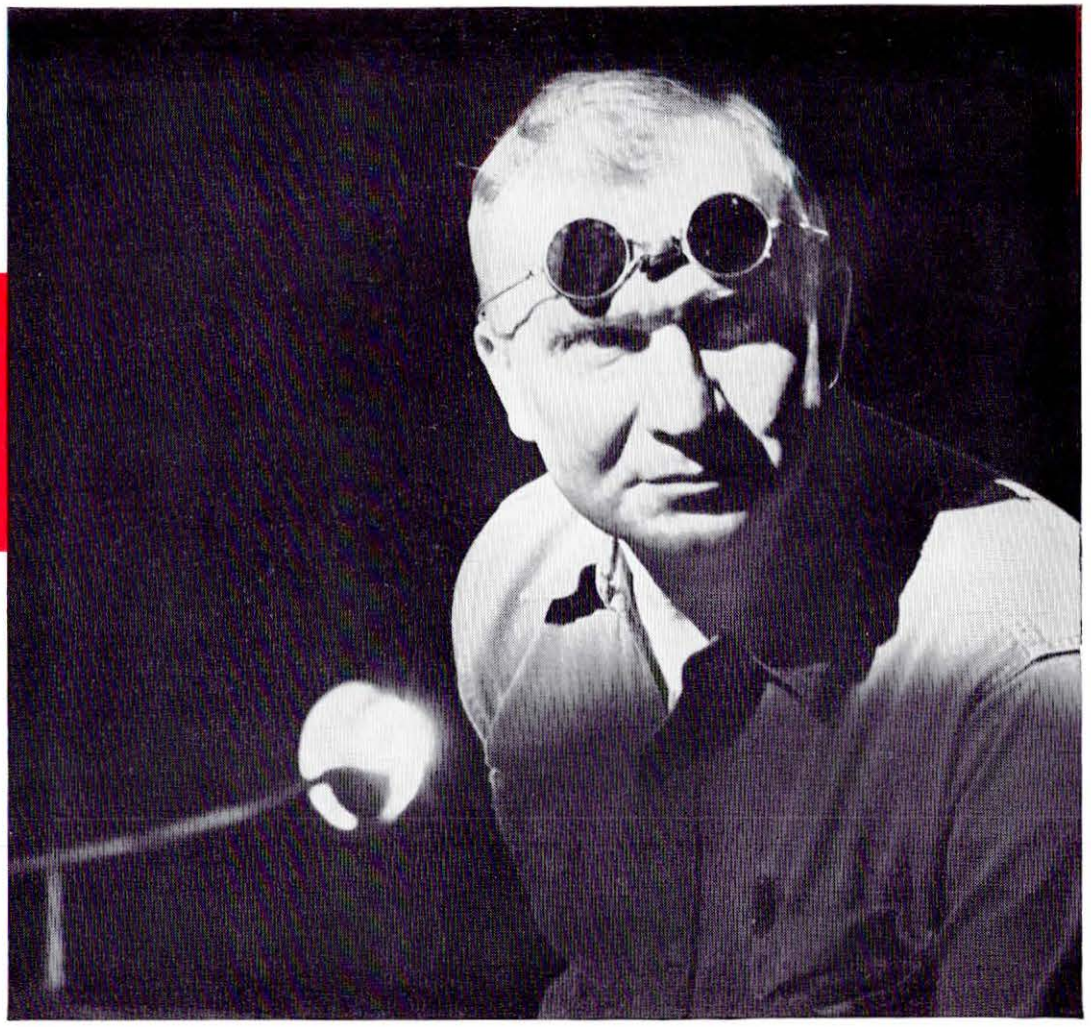

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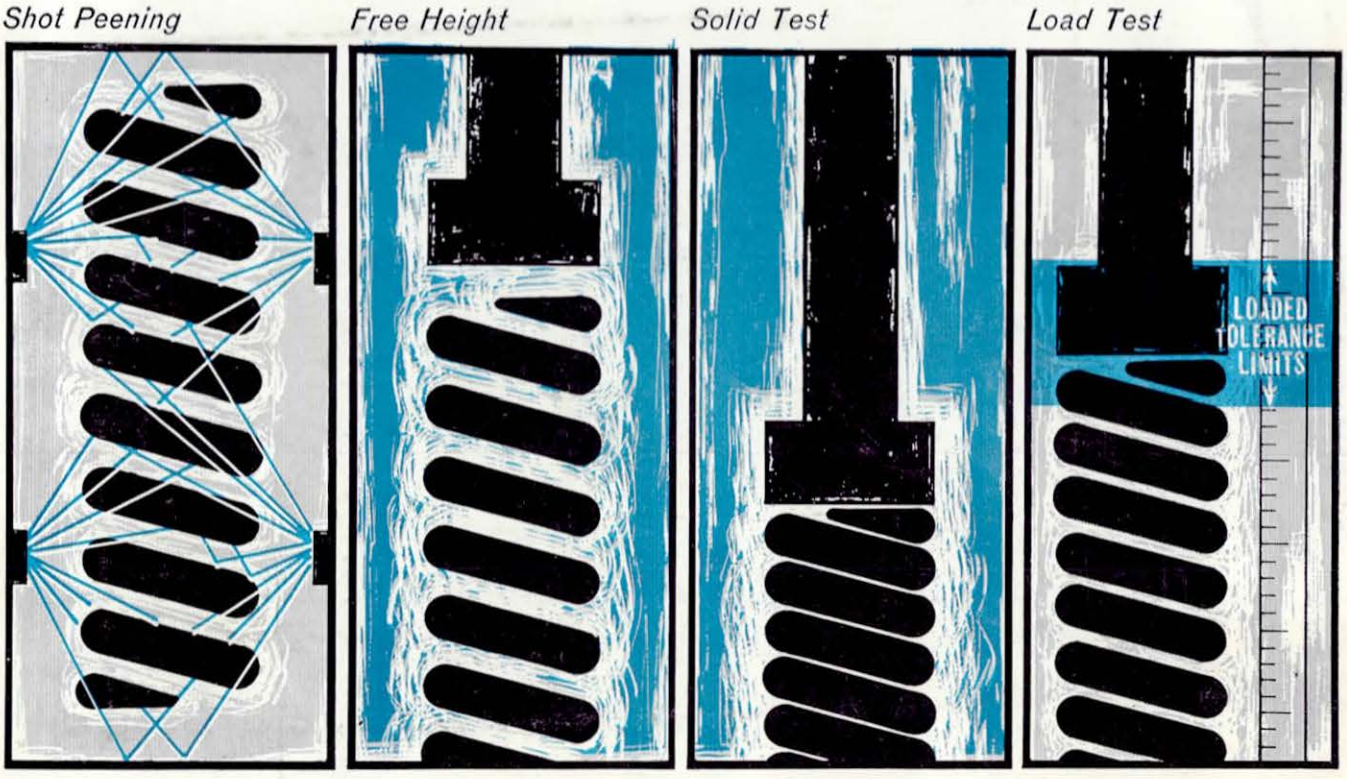

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